The Builder.

No. CLIV.

SATURDAY, JANUARY 17, 1846.

A FEW days ago, four little children were tried before Mr. Serjeant Adams, at the Clerkenwell Sessions House, for stealing some pocket-knives; and, being found guilty, with a recommendation that they should be treated with leniency, were *mercifully* sentenced to be imprisoned one month, and then to be well whipped with a birch rod. The consideration of this sentence, which fills us with painful emotions, is out of our province; but some statements which were made on that occasion are wholly within it, and demand attention.

A juryman remarked that all the boys appeared to have lived in the same court. Now, he knew of one court which was so densely populated, as to be beyond any conception. In that court there were not more than two parties who were married. He was sure, if so frightful a state of things were generally known—and many courts and alleys were there in the metropolis equally crowded—that vast good must arise, because it would not be allowed to continue so. In some of the houses in these courts there were a large number of poor families crowded together, and amongst them every sense or feeling of modesty, of morality, or even of the slightest appearance of decency, was completely abandoned. *Even within a stone's throw of that sessions-house, there was a court of such a description.* If there were any man of a properly regulated mind who would venture to walk down that court on a Sunday afternoon, he would become the witness of a scene which would arouse his pity as well as his indignation.

The judge said that he fully concurred in this statement. The erection of good and open streets, was a great and important feature towards the amelioration of the social and healthful condition of the poorer classes of society, and happily that was now a subject which occupied the attention of the country. These alleys, or "rookeries," as they were termed, were one leading cause of the demoralization of the lower classes of the population. During the last year or two he had missed one branch of the business of that court, and one that used to give him an immensity of labour and trouble, namely, the assault cases from the parish of St. Giles. For a length of time he had been unable to conceive what could have produced this falling off in those cases, and it was not until he was accidentally mentioning the fact to a magistrate on the bench, that he was informed it was the result of the removal of the St. Giles's rookery, which had been pulled down for the purposes of the improvements at the end of Oxford-street. This of course at once explained the circumstance. If the public could but become acquainted with some of the facts that could be communicated by the governors of their county prisons, in reference to the habits of the young females of the metropolis, from twelve and upwards, who had resided in these crowded courts, they would find that all of them were ignorant, and destitute of any sense of the common feelings of morality or modesty. If the county could be induced to act concurrently in this and other matters of public and social improvement, a vast impetus would be given to the measures of social regeneration which were occupying the attention of the Legislature at the present moment."

The connection between ill-drained, ill-built, ill-ventilated, crowded dwellings, and the healthful condition, comfort, and morality of the community, is even now so little understood, that no assertion of it can be reiterated too often.

If the frightful state of the dwellings of the poor were generally known, said the juryman, it would not be allowed to continue so! If the county could be induced to act concurrently, remarked the judge, much could be done towards removing the evil—the cause of much crime and misery! Should not all, then, who can, strive to make these facts known? Should not all who have the power, labour to induce concurrent efforts in the various counties of the kingdom, to obtain an improvement which affects me and you, and all of us so much? It takes a long time to make the public hear. They require to be told a new truth many times, and in many ways, before they will appreciate or admit it; and, therefore, no opportunity should be lost of pointing out the fact, again and again, that by opening the windows of the poor, giving them good drainage, a plentiful supply of water and air, and otherwise rendering their dwellings salubrious, you are advancing their social condition, and lessening the causes of crime as well as disease, with all their attendant miseries, which spread in a wide circle around their origin, and may reach even you and your dearest friends.

To the Middlesex magistrates we would say, at all events look at home. Go to the crowded and ill-built court, "within a stone's throw of your sessions house," where scenes continually occur that would induce the pity as well as the indignation of every properly regulated mind, and use your powerful influence to obtain its improvement in a sanatory point of view, as a first and most important step towards the *moral* reformation of its denizens.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

ON Thursday, the 8th instant, Professor Cockerell delivered the first lecture of his annual course at the Royal Academy. He commenced by reminding his hearers, that the objects of the Academy were connected exclusively with graphic art, and that the subject of his lectures was similarly circumscribed. The connection between architecture, sculpture, and painting, had been considered in all academies. The knowledge of the art of building was as essential as the means of procuring food and clothing, and it was not until architecture had satisfied positive requirements, that it became an art. He referred to the subjects of his previous courses, and stated that his present lectures would contain some remarks on the architecture of the middle ages. Painting and sculpture were based upon the imitation of nature; architecture was guided by analogies of nature. He recommended an intimate study of natural productions, as flowers and crustacea, saying that from such objects impressions of beauty would be gained, and a variety of elegant forms suggested. He defined architecture as a science, and as an art; adding that the materials for the former branch were well supplied at other institutions. He remarked, that the art of landscape painting was important to the architect, giving him the means of judging of the effect of architecture in combination with scenery. The professor then commented on the indispensible requisites of drawing and perspective, quoting from the work of Scamozzi, who said, that the language of the hand becomes the architect more than any other man. Scamozzi was originally a perspective painter, and it was not unusual for those who practised that art to become able architects. Vanbrugh became an architect through his connection with the theatre. Servandoni, the architect of St. Sulpice, at Paris, was another instance, and the abilities of some members of the Academy would render them able competitors with us in architecture. The three arts had always flourished best when united. He regretted that a notion had prevailed, that the union of these sisters was not essential to the success of architecture. Architecture without them became, in fact, the science of engineering. He then commented somewhat severely upon the present practice of making "pretty drawings," which by means of aerial perspective and colour conveyed impressions by no means attributes of the *design*. He considered, that far too much valuable time was wasted in acquiring the ability to produce such works, as appeared annually on the walls of that gallery. They properly came within the sphere of another art, and architecture alone would engross the whole attention. Life itself did not admit of pursuits so incompatible. He reminded them of drawings, by Inigo Jones, and others previously exhibited, which were by no means remarkable for the effects alluded to; Palladio's drawings in like manner, were only the most simple transcripts of his designs, whilst Piranesi, so great as a draughtsman, was insignificant as an architect. He considered, that this tendency arose from the system of competitions, and from the practice of exhibiting along with oil pictures. We must recollect, that architecture had to endure all lights, and all circumstances of effect and colour; the light and shade, the figures, and other accessories of the drawing could not be fixed; in the words of Philibert de l'Orme, they were "Nets to catch a customer." Let them cultivate a severe style of drawing in outline, or at most with one colour, but set their faces against the reds and blues, now used in drawings. Referring to his previous lectures, illustrative of the history of the art, and the many variations of style; he said that for some time back, architecture had shewn a strange variety of fashions, all of which were each at one time popular, but were speedily abandoned. At one time Egyptian was the *rage;* then George the IV. introduced the Hindoo, subsequently we had Greek, Gothic, and the "Revival" by turns. It was dangerous to confine the attention to one ephemeral style, as was much the habit amongst young men, and they might be left in the lurch when the next change took place.

Mr Cockerell then remarked upon the advantages that were to be gained from books, and said that for want of a better knowledge of them, things were frequently considered to be fresh discoveries, of which a written account had long been in existence. Concrete had been considered a recent discovery; but the process was most minutely described in the work of Philibert de l'Orme. Formerly, buildings were raised on piles or sleepers, now concrete was universal on any description of ground, even on gravel.—it was a fashion. A literary architect, or professor, would be a valuable auxiliary to the art, and might resuscitate many valuable facts, which, in the press of occupations, we had overlooked. In this way, Professor Willis had discovered in the work of Philibert de l'Orme the system practised in vaulting, and also the whole nomenclature of the middle ages. He then made some remarks on the value of the academic course, and said that it was important to acquire the habit of applying the proper term to each phase of beauty or deformity. He had often thought, that it was better that they should be instructed by a professor, whose sole business it should be, but then he had recollected, in the words of Vitruvius, that it was the union of theory and practice that made the skilful architect, and that they would have more satisfaction in hearing a professor, who was involved in all the labour of the craft. A lecturer on the art of war, who might be able to describe all the sieges that had taken place, from Troy to Antwerp, would gain little attention from his auditors compared with one, who had passed the dangers of actual service in India, or the Peninsula. The professor concluded his discourse by repeating, that it was his intention to offer some comments upon the architecture of the middle ages, in which he appeared to consider there were principles of design, capable of explanation, but not appre-

ciated by "modern Goths," and, therefore, that there was ample room for improvement in its modern adaptation. It was also a style which might be expected to last some time longer, and probably be always retained in church architecture.

ST. DUNSTAN'S IN THE EAST.

This church has been recently repaired and re-decorated under the direction of Mr. Tite. The interior was rubbed with stone, the bosses of the groins illuminated, the woodwork cleaned, and the outside of the tower pointed and repaired. It was closed for five months, and was re-opened on the 16th of November last.

The church which stood on this site originally, of ancient date, was damaged by the great fire of 1666, and was in part rebuilt by Sir Christopher Wren.

In 1810 the edifice had become much dilapidated, the walls of the nave being thrust out by the roof, and various ties were introduced. It was found, however, that nothing could be done effectually, and the first stone of the present church, designed by Mr. Laing,* to accord with Wren's tower, was laid on the 26th of November, 1817. It is constructed externally of Portland stone, and, considering the period of its erection, is a creditable production. Engravings of the exterior and interior, are given in Godwin's "Churches of London," Vol. 1.

Wren's spire, as most of our readers will remember, is a curious piece of construction, being supported on four arched ribs, springing from the angles of the tower, similar to the spire of St. Nicholas, at Newcastle-on-Tyne, which probably furnished Wren with the idea.† The details of the tower display our great countryman's want of knowledge of pointed architecture, or contempt for its proprieties. John Carter, in one of his papers on "Architectural Innovation," published in the *Gentleman's Magazine*, says "St. Nicholas's tower is so lofty, and of such a girth, that, to compare great things with small, our London piece of vanity is but a mole-hill to the Newcastle 'mountain,' the pride and glory of the northern hemisphere."

THE BURSTING OF A CAST-IRON TANK,

AT THE LIVERPOOL AND HARRINGTON WATER-WORKS.‡

It was originally intended to comprise the discussion of this subject in one paper only, but being deeply impressed with the belief of its importance in a practical point of view, we became aware that it required a fuller consideration than space would allow in one number of The Builder; we, therefore, resume the investigation, in the hopes that further inquiries may tend to throw some light on the cause of the accident, and serve as an example for conducting the calculations in other cases of a similar nature.

It is not the mean pressure of the water that ought to be taken into account in estimating the strength of the containing vessel, for since that occurs at the centre of gravity of the surface pressed, it is not of sufficient intensity to be made a criterion for judging of the general strength within the limit of safety, the mean on the lower half of the depth being much greater than that on the upper half. Neither is it the body of water contained in the vessel that leads us to the determination of the strength, for by the very nature of fluidity, the pressure is the same whether it be propagated by a film of one inch in thickness, or by a mass of one mile, or one thousand miles in extent. This is manifest from the circumstance of the pressure on the upright surface being expressed in terms of the dimensions of that surface, without reference to a third dimension, which is the characteristic of solidity; the equation which represents the pressure on a rectangular surface, involving only the length and breadth of that surface, which in the present instance we shall call the length and depth, because the one is horizontal and the other vertical.

The equation for pressure on an upright rectangular surface, when expressed in a specific form, is as follows, viz.:—

$$pressure = \tfrac{1}{2} \, length \times depth \times depth \ldots (A)$$

This equation represents the pressure when expressed in cubic feet of the fluid, and since one cubic foot of water weighs 62½ lbs., the pressure in pounds becomes

$$pressure = 31{\cdot}25 \, length \times depth \times depth \ldots (B)$$

But in large surfaces where the pressure is very great, it is often more convenient to have its magnitude expressed in tons, and for this purpose the specific equation is

$$pressure = 0{\cdot}01395 \, length \times depth \times depth \ldots (C)$$

If we assume the 36th foot along the side of the vessel; that is, the middle foot of the length, or 35 feet from each end, and estimate the pressure on each foot of depth considered separately, the variation of pressure from the top to the bottom of the vessel will thereby become manifest. Any one foot along the length would answer equally as well, but we have chosen the middle one as being that which includes the centres of magnitude and gravity of the surface, and likewise another point of very great importance which we will presently have occasion to consider.

The following tablet exhibits the pressure in cubic feet of water, and in pounds avoirdupois, for every foot of descent throughout the depth of the vessel; the same pressures being uniform on each equal portion of the upright surface.

TABLE OF PRESSURES.

Depth.	Cubic feet.	Pounds.
1	0·5	31·25
2	1·5	93·75
3	2·5	156·25
4	3·5	218·75
5	4·5	281·25
6	5·5	343·75
7	6·5	406·25
8	7·5	468·75
9	8·5	531·25
10	9·5	593·75
11	10·5	656·25
12	11·5	718·75
13	12·5	781·25
14	13·5	843·75
15	14·5	906·25
16	15·5	968·75
17	16·5	1031·25
18	17·5	1093·75
19	18·5	1156·25
20	19·5	1218·75

And if all the numbers in the second and third columns be summed up, we shall have 200 cubic feet, and 12,500 lbs. for the pressures on 20 feet in depth, and 1 foot in length of the surface of the vessel; being the same numbers as would arise by the application of the equations (A) and (B).

If we take the arithmetical means between the tabular numbers corresponding to the 10th and 11th feet in depth, we will find them to be 10 and 625 respectively; that is, the pressure on that foot of surface in the order of descent which is made up of the lower half of the 10th foot and the upper half of the 11th, is equivalent to the weight of 10 cubic feet of water, or 625 lbs. But if we take the means of the uppermost ten numbers, and also those of the lowermost, we shall find them to be 5; 312·5, and 15; 937.5; that is 5 cubic feet of water and 312·5 lbs., the means of the uppermost division, and 15 cubic feet of water and 937·5 lbs., the means of the lowermost; the means of both being 10 cubic feet of water, and 625 lbs, the same as before.

Let this suffice for the mode of reasoning for the pressure to be sustained; and next, for that pressure which is to be taken as a guide to the determination of the strength necessary to resist the accumulated pressure of the water.

We have seen that the mean pressure on a square foot of surface, at one-fourth, one-half, and three-fourths of the depth, are 312·5; 625, and 937·5 lbs., respectively; but it is obvious that neither of these can be taken as the mean from which to calculate the equivalent resistance; there is, however, a point where such a mean exists, and this point has by the writers on mechanics been denominated

THE CENTRE OF PRESSURE.

The *centre of pressure*, upon any plane surface, is that point in the plane to which if the total pressure were applied, its effect upon the plane would be precisely the same as when it is distributed unequally over the whole surface according to the natural laws of fluid pressure; or it is that point in the plane into which we may conceive the whole pressure to be accumulated; or it is that point to which, if a force be applied of equal intensity as the total pressure, but acting in a contrary direction, that force would exactly balance or sustain the pressure. From these definitions of the centre of pressure, it is evident, that a knowledge of its position, is of the utmost importance in every inquiry respecting fluid resistance.

The upright side of the tank at the Liverpool and Harrington water works would, if full, have been pressed with a force equivalent to 887500 lbs., and this force, as we have seen in the preceding table, is unequally distributed over the surface, the higher parts not being so much pressed as those that are at a greater depth, and consequently, the efforts of all the partial pressures may be conceived to be united in some particular point which is nearer to the bottom than the top of the vessel, and this is the point which we have termed the centre of pressure.

If, therefore, to this point, a force equivalent to 887500 lbs. be applied, it will have the same effect in straining the upright surface or side of the tank, as was exerted by the water when unequally distributed over it, not precisely indeed in the way of bulging out the parts, but in overturning it, supposing it to be moveable on hinges about the lower edge. And if to the point here referred to, we apply the same force of 887500 lbs. in a contrary direction to that of the pressure of the water, this force and the pressure of the water being equal and opposite, will destroy each others effects, and the side of the vessel will retain its upright position in the same manner as if it were not pressed at all.

It is foreign to our present purpose to give a rule for determining the position of the centre of pressure in all cases, or for surfaces of different forms; it would indeed be extremely difficult to do so, as a general investigation requires a higher order of mathematics than is recognized in the pages of The Builder, and would require more space than can be allowed in the present instance; there is, however, no occasion for entering into a general investigation of the subject, since the rule for the rectangular plane is simple and well known, and that is the case which directly applies to the form of surface now under consideration.

The writers on mechanics have shewn, that if any plane which is anyhow immersed in, or in contact with a non-elastic fluid, be produced till it intersects or coincides with the surface of the fluid, and if the line of common intersection of the two planes be considered as the axis of suspension; then the centre of oscillation or percussion of the plane, as it is supposed to revolve about that axis, will be in the same point of the plane as the centre of pressure sought. For let a straight line bisect the surface of the plane vertically; then, if the percussive forces of every point of that line be as the pressures exerted on those points, it follows that the centre of percussion must be the same as the centre of pressure; for the percussive force of any point in the above-said line, is as the velocity of that point, and the velocity is as the distance from the axis of suspension; consequently, since the percussive forces of the several points in the line are as their respective distances from the axis of motion, and since these lines are respectively perpendicular to the surface of the water, and therefore measure the pressures on the several points of the vertical line, it follows that the percussive forces are as the pressures on the several points, and for this reason the centre of percussion or oscillation is the same as the centre of pressure.

Now, it is a well known fact in the doctrine of mechanics, that the centre of percussion in a rectangular plane, having its upper side for the axis of suspension, is in the straight line which bisects the plane perpendicularly, and distant from the axis by two-thirds of the bisecting line.

If, therefore, we conceive the upright side of the tank to be the plane in question, its upper edge, when full of water, will be the axis of suspension, and the position of the centre of pressure will be in the vertical bisecting line at two-thirds of the depth of the vessel; then, a straight line drawn through this point parellel to the horizon, and ranging

* Who designed the Custom House. His son is an engraver on wood, whose works are well known to the readers of this journal.

† An engraving of St. Nicholas's church and a descriptive account of the structure, will be found in the first volume of The Builder, p. 231.

‡ See p. 16, *ante*.

from end to end of the tank, is what we think proper to denominate the *line of equivalent resistance*, because a force equivalent to the unequal pressure on the surface, if equally distributed along that line, and acting in an opposite direction, will exactly balance the aggregate pressure on the plane. It is along this line, therefore, that the transverse tie-bars should be arranged, to counteract the pressure of the water on the upright side of the cistern.

The tank being 20 feet deep, the centre of pressure is in the vertical line which bisects its side, 13⅓ feet distant from the top, and 6⅔ feet distant from the bottom; and the pressure at this depth is 833⅓ lbs. per square foot, or 5·787 lbs. per square inch; this, therefore, is to be considered as the mean force which has to be opposed or resisted by the strength of the material, and not the mean as referred to the centre of gravity of the plane.

The total pressure on the upright side of the vessel is 887500 lbs., or 396 tons, omitting the fraction; and if we suppose this pressure to be resisted by four equal cylindrical bars of malleable iron, acting transversely at equal intervals along the line of equivalent resistance, each of these bars will have to resist 99 tons of pressure, on the supposition that the vessel is full of water, and that the plane of resistance is free to revolve, as it were, on hinges at the bottom.

Now, it has been proved by experiment, that a bar of malleable iron of good quality, one inch square, when drawn in the direction of its length, will bear a strain of 30 tons before it gives way; but in order to ensure safety, and keep the strain within the elastic power of the material, it is usual in practice to allow only one-third of that force, or 10 tons to the square inch; consequently, the diameter of a round bar, to resist a strain of 99 tons under this limit, must be 3·55 inches, for we have—

$$\textit{diameter} = \sqrt{\frac{99}{\cdot 7854 \times 10}} = 3{\cdot}55 \text{ inches.}$$

Hence it appears, that four bars of 3·55 inches diameter each, placed transversely at equal intervals of 14·2 feet along the line of equivalent resistance (the first and last being also 14·2 feet from the ends of the tank), will resist the whole pressure of the water on the upright side of the vessel.

This, however, supposes that the plane of resistance is free, and that no support is obtained from the connection of the sides and ends, or by any other braces or ties whatever. Now this is a condition which does not in reality exist, for a very powerful support is obtained by means of these fastenings, even to the extent of two-thirds of the whole; if, therefore, we allow two-thirds on this account, there will still remain 33 tons to be supported by each of the transverse bars, reckoning them only four in number, acting in the line of equivalent resistance. This would indeed be the best place to apply them, provided the upper part of the resisting surface was perfectly rigid, and incapable of yielding to the pressure of the water; but since this is not the case, it would be better to have a greater number of transverse bars, say twelve in all, as in the actual construction of the Liverpool tank, placing the other eight in two similar and parallel rows, nearer to the top of the vessel, or at equal intervals between the top and the line of equivalent resistance. The diameters of these bars should be diminished as they ascend, in proportion to the pressure they have to resist at the points of application, which is directly as the depth of these points below the upper surface of the water.

Dividing the 33 tons by 10, the section of the iron for three bars having the same strength conjointly as one that is capable of sustaining 33 tons, is 3·3 square inches, and the distances from the top of the vessel at which the several bars are to be fixed, are 13⅓, 8⅔, and 4⅔ feet respectively; therefore, by dividing the total area of section in these proportions, we have 1·65 square inches for the section of the lower bars; 1·1 square inches for the section of the middle bars, and 0·55 of an inch for that of the top bars.

If the strain be equally distributed on tie bars of these dimensions, placed exactly in the positions that we have assigned to them, and the fastenings carefully attended to, we should have no doubt of the safety of a tank of the specified dimensions thus constructed, provided all the other braces and stays are equally well adjusted; but we would certainly prefer a greater number of bars, placed at shorter intervals, and diminished in size according to their increased number. This would have the effect of shortening the leverage, and preventing the unsupported portions of the plates from bulging out to a distance beyond the cohesive power of the metal.

A similar arrangement of bars would be required for supporting the ends of the vessel, but in consequence of the great length necessary to reach from end to end, it would be convenient to fix them obliquely to some appropriate projections in the bottom, the diameters being enlarged in proportion to the diminished strength arising from the obliquity.

We have no means of comparing the above sizes of the bars with those actually employed in the construction of the vessel, for it does not appear that the sizes were stated at the inquest, and other reports that have appeared in the newspapers are in general so vague and erroneous in respect of the dimensions, that no reliance can be placed in them. It is, however, our decided opinion that the accident arose more especially from bad arrangement, and imperfections in the fastenings and boltings of the ties, than from any deficiency in the actual strength; and we are led to this conclusion by attentively considering the evidence of Mr. Grantham, where he states, that the rupture occurred at about 28 feet from the south end of the vessel. Now this was immediately contiguous to the second vertical tier of bars, where we would have expected considerable stiffness to prevail; but the circumstance of the rupture occurring at that point, induces us to believe, that the bars slackened at that tier, thereby doubling the leverage on the plates between the first and third tiers, and admitting the sides to bulge out beyond the limits of the cohesive power of the material.

There can be no doubt that the cast-iron plates were of sufficient strength to resist all the pressure to which they were likely to be subjected, provided they had been properly tied to break the immense leverage of 71 feet; we cannot say that we much approve of the variation of thickness in the panelling, but even admitting this to a small extent, there was still sufficient strength in the plates to resist the pressure with proper stays.

We reason on this point from the comparison of a cylindrical vessel of equal sectional area, for in this case, an inch of thickness in the metal, would be safe under a pressure of 101 pounds to the square inch, and certainly a rectangular vessel of similar thickness at the point of equivalent strain, would be safe under a pressure of only 5·787 pounds.

The theorem for calculating the amount of pressure, or lateral strain on one inch of a cylindrical vessel, is

*pressure = thickness × cohesion ÷ radius + thickness.**

And applying this to the case before us, we get—

$$\textit{radius} = \tfrac{1}{2}\sqrt{\frac{24.5 \times 20}{\cdot 7854}} = 12{\cdot}49 \text{ feet;}$$

and taking the thickness at one inch, it is—

$$\textit{pressure} = \frac{1 \times 15300}{149{\cdot}88 + 1} = 101{\cdot}3 \text{ lbs. } \textit{per square inch of cylindrical surface.}$$

We now conclude our remarks by observing, that far greater safety would have been ensured by dividing the vessel transversely into several compartments, by means of plates similar to those in the sides and ends, this would have rendered the whole structure much more rigid, and given firmer bindings to the sides; the supply pipe could easily have been so arranged as to fill all the compartments simultaneously, or they might have been left to fill one from another by means of hydrostatic pressure, the water being urged through orifices left for the purpose.

We do not pretend to say, that the remarks which we have thrown out are strictly in accordance with the practice of the engineers, nor do we warrant the correctness of the conclusions which we have drawn, they are such as occurred to us from the information that we possessed, and they may be useful in guiding practical men in similar cases. T.

* This rule may be seen in Turnbull's "Theory of the Hydro-mechanical Press," published by Taylor in 1831. Or the "Mechanics of Fluids for Practical Men," published under the name of Alexander Jameson, LL.D.; but which, in reality, is the production of the individual just named.

INSTITUTE OF BRITISH ARCHITECTS.

An ordinary general meeting was held on Monday, the 12th instant; Mr. Kendall, vice-president, in the chair. The following letter, dated Athens, and addressed to Professor Donaldson, was read:—

"My dear Sir,—When I saw you last in England, I gave you the promise of a letter from Athens, and I attempt now to fulfil it.

The Acropolis, with its glorious remains of architecture and sculpture, is the only interesting theme here; and, to architects, the Temple of Art, where all must worship.

The Archæological Society here have done several interesting works since I first visited Greece. The rubbish which encumbered the portico of the Erectheium in the shape of a powder magazine, has been cleared away, and that beautiful doorway, which I recollect as given in your work on "Doorways," is exposed to view. It is much mutilated, I am sorry to say; but that which is left perfect, shews the same unrivalled delicacy of workmanship which is visible throughout the whole of the details of the Temple.

On the south-side of the Parthenon, the society have been clearing away the fallen fragments, and in doing so, have shewn the foundation wall to the depth of about ten feet. In the course of this work, two pieces of sculpture, forming part of the sacred procession, which was round the cella, were turned up; a slight sketch of them, which I lithographed, I have inclosed to you. A considerable part of the wall of the cella has been rebuilt, and most of the fragments in the interior of the Temple have been removed. The interior now offers greater facilities for speculative, or rather, I should say, conclusive imaginings on its decoration. There are evident traces of Doric columns, with marks of their flutings, &c., visible on the floor of the interior. The diameter of these columns has been 3 feet 7¼ inches; and on both sides it is clear there have been nine, counting from the east end, at which there is the remnant of a pilaster, the breadth of the diameter of the columns. The other parts of the interior cannot be determined in the same decided traceable way, therefore I will refrain from giving you any conjectures which may be erroneous.

The Temple of Victory has also had the attention of the society, and it is now restored, as far as possible, with the sculptured frieze, &c.

At present, the labours of the society are directed to clearing away the rubbish on the north side of the Propylæa.

In different parts of the Acropolis several remains of walls, &c., have been discovered, probably of earlier temples. A correct survey of the Acropolis, I have often thought, would be very interesting to architects and archæologists in England, with all their particulars of walls and spots marked on it; and as I am here, I should be very glad to undertake a work of that kind, if there were any likelihood of remuneration.—I am, yours faithfully,

George Knowles."

Mr. Britton then read a very interesting paper "On the design, construction, and architectural characteristics of the collegiate chapel at Roslyn, Scotland;" and illustrated it by a number of excellent drawings. Roslyn is a few miles south of Edinburgh; the celebrated chapel was founded, it is always asserted, by William de St. Clair, in the fifteenth century. A manuscript in Hay's collections, quoted by Mr. Britton, says:—

"He builded the church walls of Rosline, having rounds with fair chambers and galleries thereon. He builded also the forework that looks to the north-east. He builded the bridge under the castle, and sundrie office houses. In the south-east side thereof, over against the chapell wall, he made plaine the rock on which the castle is builded, for the more strength thereof, and he planted a very fair orchard. But his age creeping on him made him consider how he had spent his time past, and how to spend that which was to come. Therefore, to the end he might not seem altogether unthankfull to God, for the beneficies receaved from him, it came in his minde to build a house for God's service of most curious work, the which, that it might be done with greater glory and splendor, he caused artificers to be brought from other regions and forraigne kingdomes, and caused

dayly to be abundance of all kinde of workemen present, as masons, carpenters, smiths, borrowmen and quarriers, with others. The foundation of this rare worke he caused to be laid in the year of our Lord, 1446; and to the end the worke might be more rare, first he caused the draughts (or designs) to be drawn upon Eastland boards, and made the carpenters to carve them according to the draughts thereon, and then gave them for patterns to the masons, that they might thereby cut the like in stone. Because he thought the masones had not a convenient place to lodge in, near the place where he builded this curious colledge (for the town then stood half a mile from the place where it now stands, to wit, at Bilsdone burne), therfore he made them build the towne of Rosline, that is now extant, and gave every one of them a house and lands answerable therunto. So that this towne, all that time, by reason of the great concourse of people that had recourse unto the prince (for it is remembered of him that he entertaind all his tenants that were any way impoverishd and made serve all the poore that came to his gates, so that he spent yearly upon such as came to beg att his gates 120 quarters of meale), became very populous, and had in it abundance of victuals, so that it was thought to be the chiefest towne in all Lothian, except Edinburg and Hadentone. He rewarded the masons according to their degree. As to the master masone he gave 40*l.* yearly, and to every one of the rest he gave 10*l.*, and accordingly did he reward the others, as the smith and carpenters, with others."

After tracing the history of the building, Mr. Britton described its several parts, and pointed out peculiarities apparent, such as the singular character of the details, the varieties of arches, the crypt-like chamber connected with it at the east end, &c. A story was current, chiefly spread by Sir Walter Scott, that ten barons of the family were buried in the chapel or the crypt, but Mr. Burn had disproved it by excavating.

Mr. Burn said, that having had the opportunity to investigate the chapel, he had caused an excavation, three feet wide, to be made from one end of the chapel to the other in the centre, and another in each aisle, all of them down to the foundation; others also in the crypt, but nothing was found.

Mr. Fowler suggested (and the terms of the tradition bear him out) that the coffins were placed in the crypt above ground, and were carried off when the chapel was desecrated.

Mr. Donaldson was anxious to hear the style of the building accounted for. With extraordinary richness of detail there was great want of purity. In England, there was no Gothic building whereof the details were impure.

Mr. Godwin said it was difficult to account for the debased character of the details, without ascribing the building to a more recent date than that always given to it.

Mr. Billings mentioned, that a series of figures, similar to the "Dance of Death," had been recently discovered on one of the flat arches in the aisles.

Thanks having been voted to Mr. Britton, the meeting was adjourned. We are glad to be able to state, that the candidates for the medals of the institute are numerous.

ST. MARK'S CHURCH, COLNEY HEATH,

NEAR ST. ALBAN'S.

This neat little edifice, built from the designs of Mr. Hugh Smith, of Bedford-row, was consecrated on the 30th ult., by his lordship, the Bishop of London. It is Norman in style, a parallelogram in plan, without aisles, and has a semi-circular absis at the east end, and a small bell tower on the north side at the west end. There is a gallery at this same end of the church, which is approached by an external Norman staircase, similar to that in the mint yard at Canterbury.

The length of the church between the walls is about 53 feet, exclusive of the absis; the width about 28 feet, and the height, from the pavement to the ridge (the roof being open), about 38 feet. There are sittings for 356 persons. The materials used externally are Cowley white bricks and Bath stone, and the cost was 1,300*l.* The works were executed, very satisfactorily, by Mr. W. Barnett, builder, of St. Alban's.

FREEMASONS OF THE CHURCH.

ECCLESIASTICAL DESIGN.

Jan. 13.—Mr. G. R. French, architect, in the chair. The Rev. J. B. Murray, M.A., rector of St. Dunstan in the East, communicated some account of the church of St. Dunstan in the East. Mr. J. W. Archer exhibited a fine collection of rubbings from ancient monumental brasses, and archæological sketches in water colours, many of them of considerable interest. Mr. Long exhibited an amulet representing the seven sleepers, and mentioned by Prudentius; it was brought from Milan. Also two terra-cotta lamps from the catacombs in Rome, one pagan, bearing a head probably of an Indian Bacchus, the other Christian, and having the sacred monogram on the top. Mr. G. Isaacs exhibited a Roman Christian lamp of bronze, having a Latin cross on the end. Mr. Coke Smythe exhibited three full-length portraits in water colours. Mr. Charles Foster, architect, exhibited eleven sculptures, discovered at the back of an Elizabethan chimney-piece in the old Queen's Head, Islington, while rebuilding it. Mr. Henry Stothard exhibited an original unfinished design for St. Peter's, at Rome; also an original bronze medal of Pope Clement XII., portrayed on the obverse in his pontifical robes, in bold relief, and on the reverse is an interior view of a Roman basilica. Mr. Stothard directed the attention of the students to two Elizabethan staircases, one at No. 4, Middle Row-place, Middle-row, Holborn, and No. 7, Charterhouse-square, formerly a large house, but now divided into four houses. Mr. Jarman presented to the society a beautiful volume entitled "Voyage Pittoresque en Bourgoyne," a work illustrated with engravings of antiquities at Dijon, &c., very rare in England. Also, a bust of William of Wykeham, from the Strawberry Hill collection. Mr. W. H. Rogers exhibited drawings of various ancient unpublished encaustic tiles, from St. Saviour's church, Southwark, Fotheringay castle, the mansion of Sir Francis Bacon, &c.; many from the collection of Mr. Price. Mr. W. G. Rogers exhibited a fine carved boxwood boy, by M. Shee, 1739.

A lecture was then delivered by Mr. G. R. Lewis on Ecclesiastical Design. He commenced by stating, that, "of the whole range of intellectual art, ecclesiastical design claims pre-eminence; because a Christian temple, being the most sublime object that the human mind can have for its exercise, none, therefore, but the highly gifted could expect to succeed in producing a temple for the worship of Almighty God. He considered that church art demanded the highest state of culture in all the mental faculties subservient to arts, in order to illustrate artistically by sculptured forms, and architectural divisions and arrangements, the spirit of the Law and Gospel. To substantiate which, he referred to the design of the Tabernacle, which was given by God himself to Moses, who gave to Aholiab and Bezaleel the spirit of wisdom and understanding to enable them to execute the work. He then called attention to the duties of the heads of education, that they should no longer slumber at their posts, but apply their mental powers towards forming a system of instruction for legitimately exercising these neglected intellectual powers of the human mind. To produce works of high art, the mind must be trained correctly—that is, each faculty must be exercised according to its nature, in order to execute truly the impressions which the works of creation were intended to make; our artificial systems of education must be remodelled upon a natural foundation, if we desire to see the human mind fitted to produce higher art. He enforced the necessity of making a house of prayer appear what it is, and not like many of the productions of the last century, in which are copied Egyptian, Greek, Latin, and Roman Catholic art, which is applied to inconsistent purposes in the structure of Protestant churches .The early Catholic designers did not produce their sublime edifices by slavishly copying the churches existing, but designed them expressly for their mode of worship, symbolizing the leading features of the Law and Gospel in sculptured forms and architectural divisions and arrangements, giving a speakable quality, in an artistic language, of forms and colours, that all Christians who approached her for spiritual prayer should become wise unto salvation. The cruciform foundation of their churches shews that they thoroughly understood their subject—symbolizing the crucified Saviour as the true support for all Christians while in the act of prayer. But this true principle in design did not last long; ill-judged after-thoughts were added, as fixed seats among the columns, screens, and rood-lofts across the arches, chapels round the crossing—mutilating the cross, and shutting out from view the most holy part of the church, disfiguring the entrance arch into the choir, as well as all the columns of the nave. There are Catholic errors in design. But we Protestants do all that the Catholics do (with the exception of the chapels) and much more, for we patch up galleries, mutilate the windows, the arches, the columns, and often place the pulpit and desks in such parts of the church that will not convey the voice of the preacher effectually, and therefore much of the sermon is lost. New additions to old foundations create great confusion, expose our ignorance in design, and offer bad examples for imitation, the cure of which can only be expected by a due cultivation of the faculties for the arts.

The cathedrals and smaller churches shew the Catholics to have been great ecclesiastical designers, and that they designed their edifices upon the principles that Moses gave for the same purpose, and which we find in Exodus, c. 24, v. 4, "and builded an altar under the hill, and twelve pillars, according to the twelve tribes of Israel;" a principle of symbolism on which ecclesiastical design should be based, and which the Catholic designers of the middle ages thoroughly understood, being as great artists as they were deep in religious feeling—Wells cathedral to wit, and which contains an immense mass of historical sculpture of great talent, exhibiting an inexhaustible fund of invention, composition, and design, the architecture being as full of beauty and sublimity, and the religious feeling as deeply impressed in its forms, divisions, and arrangements, as the historical compositions of sculpture. In fact, their church walls were sermons, made so by the designer to remind his flock of the truths of holy writ. Such designers were not in fear of little or no encouragement, or of enduring privations while their specimen productions were subjected to an unartistic, an unintellectual and trading ordeal. They produced their works for the edification and salvation of mankind, and not for approval or rejection. They made no appeal to the public on the score of merit, but took their stand on the immoveable foundation of God's holy word, and concentrated the whole of their mental power in its illustration."

Mr. Lewis then entered upon the interpretations of the sculptured forms, and architectural divisions and arrangements of Kilpeck church, Herefordshire, a small church, but of extraordinary character, and which he has illustrated and published with explanations and interpretations, shewing the principles of ecclesiastical design. He regretted that in published architectural works design was passed over, and an enumeration of the different parts was considered sufficient information for those wishing to obtain it. "We cannot suppose that the ancient designers would inform the public that they had erected a church in their own or the *Gothic style*, with so many windows, buttresses, doors, cornices, arches, mouldings, &c. We might as well suppose that Raphael would have said that he had produced a cartoon of Christ giving the keys to Peter, made up in the following manner:—Christ, with the sheep on one side and the Apostles on the other; Peter kneeling, the others standing; the country and river in the distance. Such a catalogue of the parts which make up the picture would afford but a little insight into the profound thought, clear perception, deep discrimination, lofty imagination, surprising invention, sublime conception, powerful and harmonious colouring, true to nature in light and shadow, action and expression, shewing the soundest judgment in the excellent selections he made of the different persons, and other matters required for the subjects he painted. Then should follow the intellectual and religious qualities of the various beings his subject demands; after which a close examination of the consummate skill evinced in the benign and solemn expression of our Saviour while pointing to the flock and delivering his charge and keys to Peter, who is all obedience, accepting

in an attitude of deep veneration the charge with heartfelt love, while the rest of the apostles shew the varied and active workings of their religious and intellectual minds. Our early churches are works of religious art also, and require similar explanations. The many sublime compositions of sculpture are of too great interest to be passed over as mere ornamental fillings up of empty spaces in the architecture, forgetting that they are part and parcel of the soul of design, in which unity and harmony stamp them with the most profound originality, very different from our incongruous patch-works. A great mind would not employ himself on a religious subject with frivolities, but, on the contrary, would make every part of his work accord with his subject. He is not obliged to go back 3,000 years to hunt after heathen monstrosities, whims, and caprices for the adornment of Christian churches. He would not lower himself to such a degradation, nor would he offend his maker by such a perverted offering.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Prussian Expedition to Egypt—Professor Lepsius.—This important expedition, which has extended over a space of three years—and has merited for its chief (Prof. L.) the name of the German Champolion, is now brought to a close, and the materials for its publication are arranging at Berlin. From the city of tombs, near the Pyramids of Gizeh and Sakhara, up the high Nile-lands of Sennaar and Meroe, every spot which testifies in any way of the civilization of ancient Egypt, has been elucidated by some real discovery of antiquarian or architectural science, through that indefatigable and ingenious traveller. Witness thereof—the complete restoration of the pyramids, a theory of their erection, and the final examination and explanation of the adjacent tombs. At Fajum the Labyrinth has been discovered, and conjointly with Mr. Linnant, the exact position of the Lake of Möris been laid down. At Thebes, Mr. Lepsius caused exact and complete drawings of the Memnonium to be made, and another copy of the Rosetta stone has been discovered in Phylä—also, those remarkable inscriptions upon the heights of the Nile at *Semne*, have been brought to light, which will elucidate much of our geological and hydrographic knowledge on ancient Egypt. Above all that is to be placed, the systematic following up of Egyptian monuments from the shores of the Mediterranean to the second Nile delta, in a chronological order, and thereby the more exact determination of that most ancient and enigmatic Æthiopic (Negro!) state of civilization—and the ascertaining, how much and at what period it influenced that of Egypt, and what it received, reciprocally, therefrom. Those after all, only preliminary researches of Champolion and Rosselini, have only received now, by their German follower, a systematic scientific completion—and there is no doubt left, that the history of *Misraim* began five thousand years hence, and will undoubtedly, for ever, be the incipient point of profane history and our system of civilization. The language of monumental hieroglyphics—so important on account of the origin of language and the art of writing, will receive equal aid from Professor Lepsius's labours, whose philological acquirements are generally appreciated. Thus an undertaking has been completed, which reflects highly on the liberality of the King of Prussia, and his knowledge in the selection of able men for his purposes. The material results of this science and art-expedition, have been 1,200 drawings, consisting of elevations and plans of monuments, executed with great skill and perseverance by Messrs. Frey, Conradi, Erbkam, and Weidenbach, together with extensive art-collections, partly bought by Mr. Lepsius, or presented by the Viceroy to Frederic William IV. The professor has returned by Damiette to Syria, whence he went to Constantinople, accompanied by Dr. Bethmann, who had employed several months in Cairo, in the compilation of a comparative Calendary, which may throw some light on the chronology of this very ancient dwelling-place of man. Dr. B. has, moreover acquired very interesting data towards a comparison of Arabic and Gothic architecture, from which former, the latter may have sprung. Mr. Lepsius has not extended his researches to the Delta, where, however, the vast accumulation of Nile-alluvium strata and the periodical inundations make every research very difficult and expensive. It remains to expect, that some *upheaving* of the earth, may—sooner or later, bring this "scene to light."—*Preussische Allg. Zeitung.*

Rome.—"Mechanism" of art.—Pictures for the Campo Santo at Berlin.—Sculpture.—The Daguerreotype in the collections and museums of Italy.—A somewhat novel phenomenon has been observed of late in that metropolis of art, as great hosts throng around fine models either with or without costume; *typic* cartoons, if we may so call them—preparations for preparations of a future art-work—the picture. To whatever perfection of form (of the model), or even colorit such *mechanism* may arrive—yet it is to be taken into consideration, that *art*, being an outbursting of mind, will hardly ever avail any thing by such contrivances, which, are to be considered, in the best, merely as the *innocuous* pastime of the wealthy.—Two men, however, residing now at Rome—we mean Cornelius and Overbeck, smile, most probably, at such art-mechanism, and pursue their own mind-flight. The former has selected from his rich series of drawings for the Campo Santo at Berlin, one, which he has executed in a huge cartoon—viz. an allegory of the powers which distress and destroy mankind! The execution is that of juvenile freshness and spirit. Overbeck, on the other hand, has nearly completed an oil painting, destined for his native city, Lubeck—the Sepulture of Jesus Christ.—The Descent from the Cross by *Tenerani*, a *relievo* made for the tomb of Prince Torlonia in the Lateran, is especially noticed. In him, the feeling for the *antique*, as exhibited in the true proportions of form, is blended with that warmth, resulting from religious sentiments. Next to him, the works of Wyatt and Gibson are much spoken of—and much promising are those of the Dane Jerichau and the Bohemian Max.—A very important vase has been, of late, dug up—being made in the fourth or fifth century of the Christian era, and shewing most strikingly the transition, or rather combination of Roman (heathen) and Christian art. It is made of black marble, and about four feet high. Acanthus leaves and other antique ornaments are to be seen—even two Satyr heads; while the upper part contains (underneath a gracefully bent rim) two basso-relievos, the Virgin with the child, and Christ on the throne, surrounded by his apostles. This interesting document of alloy of Roman-Christian art, has been deposited in the Collegio Romano, and will, most probably, be engraved in the work, which Professor Marchi is preparing on the catacombs, and old Christian art.—A German artist, of the name of Dr. Braun, has commenced to copy several ancient and modern plastic works by the means of galvanoplastic, and his trials have been most satisfactory. It cannot be doubted, that this method will be soon employed for multiplying the specimens of all the great European art-museums. It was stated also some time ago, that a German artist had discovered a mode of reproducing, by a *press*, oil-paintings of any size precisely similar in character. Lately, however, we have heard nothing of it.

Appenine Railway.—The preparatory works for this line are progressing very fast. On the side of the mountains the levels have been all completed, and it has been ascertained that the greatest rise will not exceed 3 per cent.—and consequently will have a similar slope to the line from Gloucester to Birmingham, and therefore can be worked by common engines. The tunnel, which at first was expected to be of a great length, will, according to present measurement, not be more than one mile long, like that from Siena to Leopolda. As the Tuscan government has lately authorized the construction of a line from Pistoja to Florence, the importance of the Appenine line will be much increased, as both will meet, and establish a direct communication between Bologna and Florence.—*Allg. Zeitung.*

How to force the Pope to allow Railways to pass his Dominions.—A plan has been mooted of late, in Italy, which might induce the holy father to forego his opposition against railway traffic. The papal dominions are encompassed on two sides by the Tuscan and Neapolitan territories, and on the other by the Adriatic and Mediterranean. Through the former railways are daily increasing, while the deep is furrowed by a number of steamboats. If some companies would unite, the railway lines could be extended to some points on the sea-coast, near the papal dominions, and their passengers and mails taken up by the steamers, and carried *around* H. H.'s territory into those of either Tuscany or Naples. If the holy father should find a falling off in his exchequer, he might give the subject a—second thought.

Munich Art-Collections.—The exquisite collection of terra-cotta figures, which had formerly belonged to the Swedish sculptor Fogelberg, at Rome, has been purchased by the King of Bavaria—in the first instance, as H. M.'s private property. These exquisite plastic figures have been publicly exhibited, and excited universal admiration.

Palace of Prince Calloredo, of Prague.—This huge structure, erected in the modern Italian style, and which is renowned for the number of its windows—365, equalling the days of one year, has been extended by the completion of one of its wings. The picture gallery of the prince has been transferred from Vienna, and placed in this new structure.

First Church of the New Reformers in Germany.—This is in the progress of erection at *Schneidemühl*, in the Duchy of Posen. The Reverend John Czerski has collected sufficient funds to make it an ornamented structure.

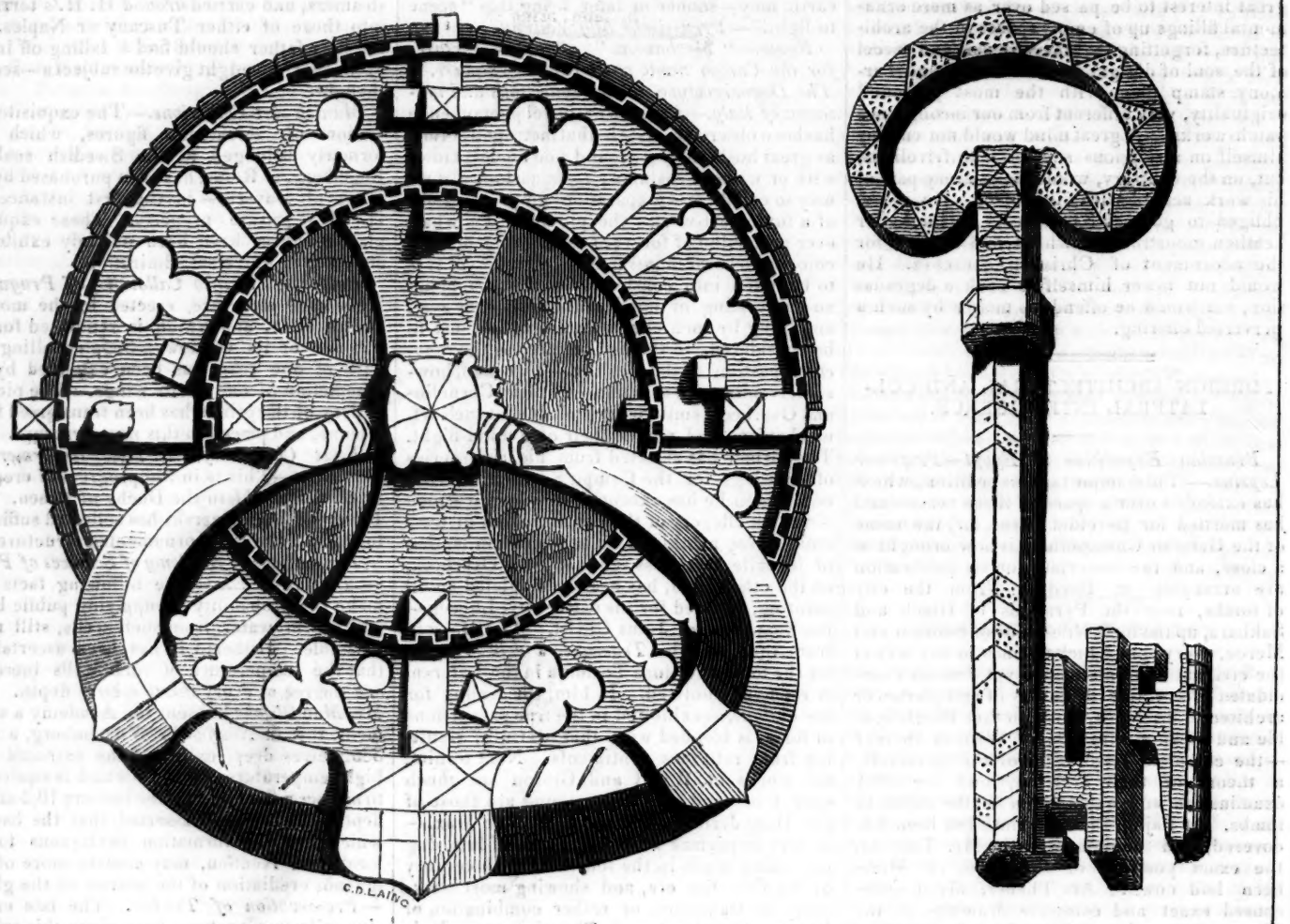
Proceedings of Academy of Sciences of Paris.—Artesian Wells.—The following facts will make the probability of supplying public baths with warm water from such wells, still more plausible. Hitherto it has been ascertained, that the temperature of such wells increases *one* degree at every *thirty* mètres depth. But Mr. *Mandelslohe* has sent the Academy a statement, that at *Neuffen* in Wurtemberg, a well, 385 mètres deep, exhibited the extraordinary high temperature of 38,7°—which is equivalent to an increase of one degree in every 10,5 mètres depth. It has been asserted, that the basalts, which are the formation contiguous to the locality of Neuffen, may contain more of the igneous eradiation of the interior of the globe.—*Preservation of Timber.* The late extensive railway operations have given this subject additional value, and drawn the attention of the Academy upon it. Several procedures have been submitted to that body. Mr. *Boucherie* has buried logs of different sorts (ash, beech, larch, &c.), for three years in the ground, when they were taken up, perfectly well preserved. Mr. B. uses pyrolignic acid, as an inferior degree of preservation, and for the complete process, sulphate of copper, pyrolignited chlorate of calcyum, or the proto chloryde of sodium and mercury. Messrs. Letellier, Smith, and Ste. Preuve, have proposed some other preparations.—*Steam Engines.* Mr. Regnault has laid before the Academy "a new theory, for exactly determining the law of tension of steam at different degrees of temperature." He modifies the axiom of Watt—that the quantity of caloric required for transforming a kilogram of water at 0 into steam is constant at every atmospheric pressure, generally assumed about 650. The experiments of Mr. R. prove, that this figure, which under the ordinary pressure is 607,7, augments constantly—from 622 under the pressure of one-fifth atmosphere, to 670, when the pressure is 15 atmospheres.—The steam pile-driver and hammers of Messrs. Merin and Schneider (analogous to that of Mr. Nasmyth), occupies also much of the time of the R. S. of Paris.

Academy at Algiers.—Mr. Salvandy, Minister of Public Instruction, has made extensive preliminary researches and arrangements for establishing in French Africa a royal *Académie*, similar to that of several of the large towns of France. The fine arts will, as a matter of course, have their adequate share in this establishment.

J. L——y.

ANCIENT PIGEON HOUSE.—Mr. M. A. Lower, describing the priory, at Lewes, in an excellent little hand-book for that interesting town, recently published by him, says, that the pigeon-house, which stood to the south-west of the existing ruins, and was taken down about forty years since, was in the form of a cross, and equalled in magnitude many a parish church; the pigeon-holes were 3,228 in number!

ANCIENT IRON WORK FROM DICKLEBURGH CHURCH.



ANCIENT IRON-WORK FROM DICKLEBURGH CHURCH, NORFOLK.

Sir,—The accompanying sketches represent of full size, the handle and key belonging to the vestry-door of the church of Dickleburgh, in Norfolk. The style of architecture throughout the whole church is perpendicular, and the door on which the handle is fixed is small, with a four-centred arch, in the north wall of the chancel, opposite the priest's door. They are very fair specimens of the art of the smith in those days, displaying an amount of decoration not often found on the iron-work of the doors of country churches. In former numbers of your journal the subject of "ancient iron-work" has been ably treated, and the inferiority of modern work, in point of ornament, clearly shewn. The introduction of cast-iron, doubtless, is the main cause of this decay of art; and, therefore, it is not the operative that is to be blamed for his inability to execute that kind of work which is seldom or never called for. In viewing our ancient churches and other Gothic edifices, we feel irresistibly impressed with the belief, that a very different feeling prevailed in the architectural and building world than exists in modern times; the same feeling of regard for the sacred pile they were erecting; the same careful wish to render work substantial and lasting; the same love of adorning even the most minute and unimportant parts of the structure, pervaded every man engaged, from the architect down to the humblest mechanic, and amongst these the blacksmith was not behind in upholding the character of his craft. Looking at our present specimens, the key in particular is very clumsily constructed, and there are, perhaps, very few modern workmen who could not make them *more neatly;* but it is the *patient attention* to *minute ornament* which they would lack. Edifices must now be reared for a certain sum of money and within a certain time. Massive strength or elaborate ornament can seldom be paid for, and thus all inducement being removed, the spirit is gone which actuated the blacksmith to adorn even a bolt or a latch, and the wood-carver to imprint on the oaken panel those grotesque and beautiful representations, many of which doubtless sprung up in *his own mind* as he proceeded with his work.

The disuse of decorative wrought-iron seems to have been gradual; and we find some ornamental specimens (such as casement fastenings, hinges, &c.) of a much later date than those above alluded to. The bolt and hinges to the door of a pew (in the nave of the same church, on the joinery of which is cut the date 1681) are more in keeping with the building than the wretched 'H joints' and 'flat bolts' we often now see used.

Dickleburgh. † †

*** We have in preparation engravings at large, of some beautifully worked ancient locks.

NORWICH: ENTRANCE GATEHOUSES TO THE PALACE AND CATHEDRAL PRECINCTS.

The city of Norwich presents many architectural objects and features of a singular, picturesque, and interesting nature. Its fine Anglo-Norman castle, with vast foss, ramparts, and ballia; the fortified walls with numerous bastion towers, and entrance gatehouses, with machicolated and embattled gatehouses, are so many evidences of the former military character of the place, as well as of the fearful and precarious state of the inhabitants, whose healths and homes were subject to the marauding and murdering invasions of foreign and domestic foes. The bishop's palace within the city, was still further guarded and defended by lofty embattled walls, and only approached through large and formidable gatehouses, which could be guarded and barricaded at every approach of an enemy. Such objects, as well as the historical annals of the city, shew the lamentable condition in which its denizens were often placed. In Britton's "History, &c., of Norwich Cathedral" are recorded many instances of invasions and conflicts, in which the citizens were engaged, not merely in resisting foreign aggression, but in outbreaks and contests with each other, and particularly between the laity and the clergy. Hence, we account for the strength and height of the walls which inclosed the palace and cathedral buildings, and hence the origin and meaning of those large and formidable gatehouses, which were built in different parts of the walls. Three of these still remain to indicate, though not fully illustrate, the nature and peculiarities of those buildings. Two of them are shewn and described in the work already referred to; whilst one, called "the Eppingham Gate," is represented and noticed in the same author's "*Picturesque Antiquities of English Cities.*" The *Palace*, or *Bishop's Gate-house*, partly represented in our last number, is also delineated in the same beautiful volume, from which we borrow the following account:—

"On the north side of the palace gardens is one of its entrances. It was raised by Bishop Alnwich about the year 1430, who either built the whole, or the greater part of the west front of the cathedral. As originally executed, this gatehouse must have been a fine specimen of architecture; but it has suffered much by neglect and by injudicious repairs. The arch, with its spandrils filled with tracery and blank shields, is a good specimen of design. The latter are said to have been inserted by Bishop Lyhart, who succeeded Alnwich. The spandrils of the principal archway are ornamented with rich tracery mouldings, inclosing blank shields, which were intended to bear the builder's arms, as that of Ly-hart (a hart or deer *couchant*), is carved in several shields on the small or lateral door. Over the arches is a very elaborate frieze of panelled compartments, inclosing shields which are alternately blank, and charged with the letter M. crowned; above this is a canopied niche, containing a seated statue crowned, implying a monarch. The angles of the building have square, flat buttresses, composed of stone quoins and flints. One of these buttresses is finished with a seated figure on a pinnacle. In the room over the gateway is a fire-place."

OLD STABLE BY INIGO JONES,

AT BRYMPTON MANOR-HOUSE, SOMERSETSHIRE.

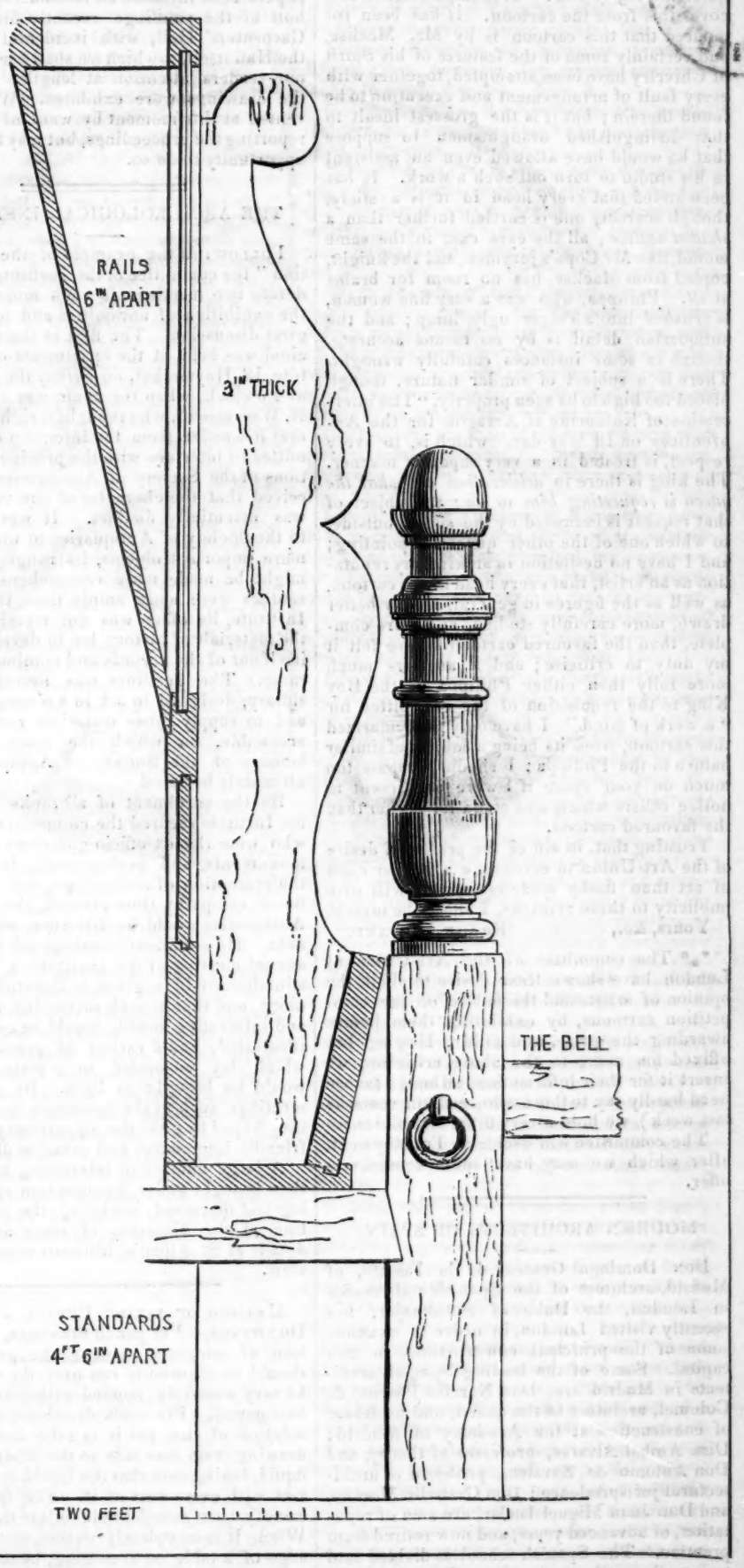
At a short distance from Yeovil, is the old manor-house of Brympton. This ancient building, which is of great interest to the architect, is of two periods, that of Henry VII. and Charles II.; that belonging to the latter is said to be the work of the celebrated Inigo Jones; and if not executed by him, there is little doubt that it was carried out from his designs by one of his pupils.

Immediately adjoining the manor-house, on the right, forming indeed one side of the quadrangle in front of the building, is the ancient Gothic chapel, which possesses a very good ornamented old timber roof. Inigo converted this venerable building into a stable.

It is now used as a place for lumber. The stalls for the horses remain, and as they are curious, I was induced to make a sketch of them, especially as no example of old stabling has yet appeared, even in your valuable paper, or in any other illustrated publication.

Horace Walpole in his account of the life of Inigo Jones states, that the front of Brympton, formerly the mansion of Sir Philip Sydenham, was erected from his designs, and if there is any reliance to be placed upon tradition, this is likely to be correct, as the garden front of Brympton, and the garden front of Hinton St. George, in the same county, are celebrated throughout Somersetshire as the works of that great architect. C.

OLD STABLE BY INIGO JONES.



THE ART-UNION CARTOONS.

Sir, — In your 152nd number, you favoured the artists with the report of a committee of the Institute of the Fine Arts, for which all those who are interested in competitions are under an obligation to you, not that the conclusions of that report are completely warranted, at least, so far as appears upon the face of it. The artists may be deserving of the censure passed upon them, and certainly as judges, whether at Bermondsey or Westminster Hall, they have given no satisfaction. But I would suggest a course which would go far to prevent the evils contemplated by the report. *No secrecy* should be allowed at all; it is a screen to the base and dishonest; it becomes an excuse to the timid for flinching from their duties; whilst it only impairs the utility of the exertions of the honest and fearless.

All the competitors should be required to record in a book, to be kept in the exhibition room, open to public view, his opinions of any or all of the works, *except* his own, together with his reasons, if possible, for such opinions, *attaching his name and address.* This should be done within a limited portion of the time of the exhibition,—say the first fortnight,—or he should forfeit his right of competition. The opinions thus recorded should be open to the public for a further time; and I would have another book in which any amateur should be at liberty to insert his opinion of any or all of the works, on the same condition of attaching his or her name and address.

These opinions will be estimated according to the value of the names respectively attached, or according to the reasoning in support of them; and guided, but not governed by these opinions, the parties who give the money should decide for themselves. It might be desirable to have two or three estimations by the competitors, but the details of the plan must depend upon the number and class of the works sent in.

The competition in cartoons for the Art-Union picture, to the exhibition of which your last numbers alluded, is, as therein stated, regarded with great interest by all who are watching the progress of the arts of this country, and especially by those who are practising them. It is the first step taken by the Art-Union in the right direction, for encouraging the higher class of art; but, notwithstanding the committee have had the courage to throw open the exhibition to the criticism of their subscribers and the public before decision, they will be guided to the selection of a piece of clap-trap and picture-making, instead of the "work of mind" they have asked for, unless they adopt some such method as I have suggested above, of obtaining opinions of competent men, *guaranteed* by their reputation as artists. For example, we find all the press running in favour of "Philippa interceding for the Lives of the Burgesses of Calais;" and yet in this cartoon, the *whole character* of the subject is lost in the *mob:* to this cartoon, as well as that opposite "The Entry of the Boy-king, Henry the Sixth," would be justly applied the criticism, "I cannot see your subject for your figures." Indeed, if it were not for the keys which form such prominent objects, I doubt if any person could discover the subject. The anger of the king,—the heroism of the burgesses, and the *consequent* benevolence of the queen—where are they? Is that miserable creature on his knees the noble-minded Eustace St. Pierre? Would not the infuriated king, when appealed to for mercy, have turned to the object who was interposing between him and his victims, instead of looking up into the skies star-gazing, or as if he were calculating whether 2 and 2 made 4 or 5? for that is his *expression* in the cartoon. Would the wives and families of these burgesses have been allowed to crowd thus indecently into the presence? Froissart tells us "Sir John de Vienne conducted them to the gates, and *the six* were admitted within the barriers to the presence of Edward; and we hear that on a previous occasion, about 500 useless mouths having been turned out of Calais, were refused passage, and perished miserably between the barriers and the town. Under these circumstances, is it possible to suppose that this riotous rabble would have

been allowed to press even *on* to the steps *of the throne?* And do not all these additions weaken the action of the queen? Will the king give way? and if he do so, will it be to the queen, the woman on the other side, or the man who holds the *bag of gold?* It is impossible to discover this from the cartoon. It has been rumoured that this cartoon is by Mr. Maclise, and certainly some of the features of his Spirit of Chivalry have been attempted, together with every fault of arrangement and execution to be found therein; but it is the grossest insult to that distinguished draughtsman to suppose that he would have allowed even an assistant in his studio to turn out such a work. It has been stated that every head in it is a study, though scarcely one is carried further than a *shaded outline*; all the eyes cast in the same mould, like Mr. Cope's jurymen, and the knight, copied from Maclise, has no room for brains at all. Philippa, who was a very fine woman, is *crushed* into a vulgar ugly lump; and the antiquarian detail is by no means accurate, though in some instances carefully wrought. There is a subject of similar nature, though placed too high to be seen properly, "The intercession of Katherine of Arragon for the Apprentices on Ill May-day," which is, in every respect, is treated in a very superior manner. The king is there in *deliberation on what the queen is requesting him to do;* the object of that request is indicated by the scene outside, to which one of the other queens is pointing; and I have no hesitation in staking my reputation as an artist, that every head in the cartoon, as well as the figures in general, are far better drawn, more carefully studied, and more complete, than the favoured cartoon I have felt it my duty to criticise; and it answers much more fully than either Philippa or the Boy King to the requisition of the committee for "a work of mind." I have only particularized this cartoon, from its being a subject of similar nature to the Philippa; I should trespass too much on your space if I were at present to notice others which also stand far higher than the favoured cartoon.

Trusting that, in aid of the professed desire of the Art-Union to encourage a higher class of art than flashy mediocrity, you will give publicity to these remarks, I subscribe myself,

Yours, &c., FRANK HOWARD.

*** The committee of the Art-Union of London have shewn their desire to elicit the opinion of artists and the public on the competition cartoons, by exhibiting them before awarding the prize, and as Mr. Howard has affixed his name to the above criticism, we insert it for their information, although (as we need hardly say to those who read our remarks last week), we hold a very different opinion.

The committee will decide on Tuesday next, after which we may have some remarks to offer.

MODERN ARCHITECTS OF SPAIN.

DON Domingo Gomez de la Fuente, of Madrid, architect of the Spanish ambassador in London, the Duke of Sottomajor, has recently visited London, in order to examine some of the principal constructions in this capital. Some of the leading Spanish architects in Madrid are, Don Narciso Pascual de Colomel, architect to the queen, and professor of construction at the Academy of Madrid; Don Anibal Alvares, professor of theory, and Don Antonio de Zavaleta, professor of architectural jurisprudence; Don Custodio Moreno, and Don Juan Miguel Inclar, are men of reputation, of advanced years, and now retired from practice. The Spanish school is divided into two sections; the senior generally maintaining their adherence to the styles of the classic periods, the younger architects, following the "movement" now prevailing throughout the European schools, introducing into their works the "*heresies*" of other periods where they find either Gothic or Moorish, or any other style adapted to produce effect or subserve to convenience. The Spaniards are still very unskilful in their mode of construction. The external walls alone are of solid brick and stone-work; all party and division walls being mere wood partitions, consisting of die square upright posts, filled in with studs. The joists are of square timber also, their distance apart being equal to their width, resembling the floors of our old Gothic houses.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE general meeting, held on Wednesday evening last, was very numerously attended, and was productive of great interest. The papers read included an account by Mr. Fairholt of the paintings recently discovered at Carpenters' Hall, with incidental notices of the Hall itself, to which we shall hereafter draw our readers attention at length; tracings of the drawings were exhibited. We are prevented at this moment by want of space from reporting the proceedings, but may find another opportunity to do so.

THE ARCHÆOLOGICAL INSTITUTE.

FOLLOWING the example of the "Association" the committee of the Institute propose to devote two meetings in each month solely to the exhibition of antiquities and to archæological discussion. The first of these conversazioni was held at the apartments of the Institute, 12, Haymarket, on Friday the 9th instant, at 4 o'clock, when the chair was taken by Sir R. Westmacott, who thought it right to observe that it was far from the intention of the committee to interfere with the province and functions of the Society of Antiquaries. He conceived that the character of the two societies was essentially distinct. It was competent to the Society of Antiquaries to undertake far more important objects, its range of research might be made more comprehensive, its resources were more ample than those of the Institute, its office was not merely to collect the materials of history, but to develope history itself out of the records and muniments of past races. The Institute was necessarily subsidiary, designed to act in a pioneer capacity, and to supply those materials not otherwise accessible, on which the more important labours of the Society of Antiquaries must ultimately be based.

By the enrolment of all ranks and classes the Institute secured the co-operation of those who were the ex-officio guardians of national monuments, and professionally interested in the promotion of archæology, and of the national sympathy thus created, the Society of Antiquaries would, he felt sure, reap the benefit. He confidently anticipated that by the annual meeting of the institute a very great stimulus would be given to the study of archology, and that in each successive visit a new and interesting locality would be explored and illustrated, and a variety of precious objects which lay concealed in private collections would be brought to light. By the smaller meetings, such as the committee held that day, they hoped to give the opportunity for much friendly intercourse and valuable discussion.

A large number of interesting matters was then brought under the attention of the meeting and discussed, including the communication of the discovery of some architectural details at St. Alban's, hitherto concealed from view.

METHOD OF FIXING PENCIL AND CHALK DRAWINGS.—For pencil drawings, a thin solution of isinglass answers the purpose. It should be allowed to run over the drawing, or be very carefully applied with a soft camel's-hair pencil. For chalk drawings, make a thin solution of size, put it in a flat dish, pass the drawing from one side to the other under the liquid, taking care that the liquid comes in contact with every part of it. The friction of a camel's-hair pencil would injure the drawing. When it is completely wetted, fasten it to the edge of a table, or to a string, by means of two or three pins, until dry. Crayon or charcoal drawings would be spoiled by this process, and for fixing them the paper should be washed over with a solution of size in the first instance. When quite dry, the surface is in a good state for making the drawing; after which it should be inverted, and held horizontally over steam. The steam melts the size, which absorbs the charcoal or crayon, and when it has again become dry, the drawing is fixed. This process may be repeated several times during the progress of a drawing, the effect being increased each time.—*Pharmaceutical Journal.*

NEWBIGGEN CHURCH.—Mr. Hudson, M.P., and Mr. John Hodgson Hinde, M.P., have each given 20*l.* towards the repairs of Newbiggen church, near Morpeth.

DESIGN IN COVENTRY.

AT a recent meeting of the members and friends of the Coventry School of Design, to distribute prizes amongst the pupils, Mr. Alderman Cope said, adverting to the funds of the School, that Government had made a considerable grant to it, on condition that the inhabitants of Coventry raised a given sum yearly; and as that sum had hardly been raised this year, he entreated them to come forward liberally with their subscriptions, and to induce their friends also to do so. With respect to the state of the School, the specimens now exhibited afforded gratifying evidence of its efficiency, and shewed that the pupils had made great progress. The School of Design at Manchester had determined upon having exhibitions similar to those of France; such was their opinion of the importance attaching to a thorough knowledge of the arts as applied to manufactures. This was what was much wanted in Coventry; but he feared the public generally, there, did not fully appreciate the advantages to be derived from such institutions. He hoped, however, that the attention of all whose interests were connected with the ribbon trade in particular, would be more alive to the benefits which this School presented; and he especially recommended the making of visits to the School, in order to witness the progress of those who were under tuition: for it was well known, that when either men or boys exerted themselves to excel in any given useful pursuits, they felt encouraged by having their progress and performances noticed. In addition to drawing, they were now taught drafting; it had also been proposed to teach the trade in all its branches—he meant every thing connected with the production of a ribbon should be taught; they might therefore hope, should this object of the Committee be realised, that young persons would go from that School as well qualified to do all that was necessary to put a ribbon in a loom, as they were at Lyons.

A correspondent of the *Coventry Herald*, comments with justice on the indifference towards the School of Design manifested by the public: He says:—Surely the circumstances of the trade are not such as to justify this indifference. What is it that has given France a preference over England in the manufacture of silk goods? Much of it is to be attributed to their skill in the art of design and colouring, and the defect in which in this country our Schools of Design are intended to remedy, similar institutions in France being the very means by which their superiority has been obtained. If competition between this country and France, in this department of trade, had never existed, or, having existed, was about to cease, still we ought not to rest satisfied while improvement could be made; but having felt the effects of competition, and viewing the present aspect of affairs—threatened with a free importation of French goods—we must be culpable indeed if we neglect any means which will enable us more successfully to rival our opponents. The utmost efforts must be made to introduce improvements in every department of our manufactures, in the pattern and texture of the ribbon, in the dyeing of the silk, and in the process of dressing. Now our School of Design is beyond all doubt adapted to aid in this course of improvement, but its utility depends much upon the manufacturers and the public generally. It is the manufacturers who must give encouragement to the youths in the school, to make the art of designing for ribbons their peculiar study; we must recollect that the pupils will naturally direct their efforts in drawing and designing, to those arts which offer the highest rewards for excellency, such as architecture, &c., and it now happens that in our school, several of the pupils who have made the greatest proficiency, are not intended by their friends to be brought up to the ribbon trade. It is an unfortunate circumstance that the manufacturers find it safer to copy from French goods than to depend upon original designs; but the evil effects of this upon the school might, to some extent, be remedied by the sacrifice of a few pounds in rewarding the pupils for good designs, although no practical use should be made of them at present.

WYNYARD PARK.—The restoration of the Marquis of Londonderry's seat at Wynyard park is rapidly approaching completion. A conservatory is now erecting on a large scale.

WESTMINSTER COURT OF SEWERS.

On Friday, the 9th instant, a special Court was held. Mr. Leslie was voted chairman of the day. The business was special: to charge a jury and receive a presentment, should the jury decide on making one, the preliminary step to making a rate on the eastern division of Westminster sewers.

The chairman having stated that his sentiments were well known on the subject of the jury receiving the evidence of the officers in open court, and not, as had been the practice, to allow the jury to leave the court and take that evidence in private, it was ultimately determined by the Court that all the evidence should be submitted to the jury in open court.

The jury having then been called into court, and having been sworn, the chairman proceeded to charge them as to the duties which devolved on them on the occasion. The returns from the vestry clerks of the several parishes in the eastern division of the Westminster sewers, comprehending portions of St. Marylebone, St. Pancras, St. Giles, and St. George's, Bloomsbury; St. Clement Danes, St. Paul's, Covent-garden; St. Martin's-in-the-Fields, St. Ann's, St. James's, Westminster, the rentals of which in the eastern division amounted to about 800,000*l.*, were then presented to the jury, with the certificates of the respective parochial authorities. The further evidence was then submitted to the jury, that the form of presentment was in its schedule of owners or occupiers, and rentals, an exact copy of the several poor-rate books, as directed by the 52nd Geo. III., local.

The jury, on being offered any additional documents or plans they might require, expressed their satisfaction with the evidence they had received, and completed the presentment.

The Court ordered the usual public notices of the presentment to be made, and then adjourned to Friday, the 16th instant, at 12 o'clock.

PUBLIC NECESSARIES.

We cannot urge too strongly the importance of this subject, in connection with the health and well-being of the community. The necessity increases every day, and it is to be hoped that our contemporaries of the press, who up to this time have been silent on the question, will throw aside all false delicacy, and give their aid in obtaining the attention of the authorities. The following letter has been addressed to the Lord Mayor:—

My Lord,—The great improvements which have taken place during the last thirty years, have diminished the public urinals which used to be found at every public-house door, but are now scarcely to be met with from one end of a street to the other, to the great inconvenience of the public. To obviate this evil, I should recommend one or more public urinals in every street, with tanks to receive the urine, which could be applied to many valuable chemical purposes, would employ a vast number of poor people, and might become profitable as well as convenient to every large town in the kingdom, if carried into effect.—I am, my Lord, your Lordship's most obedient servant,

Stratford, Bow. Thos. Stirling.

A memorial to the same effect would be numerously signed, and could hardly fail to obtain the desired object.

One of our first correspondents on this subject, whose letter, signed "Surveyor," appeared in The Builder of Nov. 29th., has forwarded a plan for public necessaries, but we do not think it necessary to publish it. He urges, that new erections should be made for the purpose, not old buildings altered; that they should be of the cheapest and most inexpensive kind; and that there should be no doors.

Chester Cathedral. — This venerable structure, which has for a considerable period been undergoing an almost complete renovation, has been re-opened for Divine worship. The alterations and repairs have been made under the superintendence of Messrs Furniss and Kilpin, of Chester, to whom the dock committee rendered much assistance by allowing the use of some of their largest stoves for the steaming of their heavy timber. The re-opening was marked by many circumstances of interest.

RAILWAY JOTTINGS.

The distance between the cross of St. Paul's in London, and the centre of the great tower of York Minster, as measured along the earth's surface, is, according to the Ordnance survey, 920,108·7 feet, or very nearly 174¼ miles, and it is said that the main line of the Direct Northern between London and York is 176 miles.——The number of plans deposited in the private bill office amount to 721, being 57 less than those deposited with the Board of Trade, and about one-half less than those originally registered.——On the 25th ultimo the first stone was laid of the great viaduct on the Cork and Bandon line. It is to cross over the mail coach road at Chetwynd valley, at Castlewhite. The foundations have been sunk to receive the masonry of the immense piers and abutments. The height of the viaduct at the centre pier will be 90 feet over the valley, and 105 feet over the foundations, and will form one of the most imposing and stupendous viaducts in the world.——The tunnel through Rose Hill, near Brighton, is nearly finished. An embankment has been raised to join the viaduct forming the junction with the present London and Brighton. When this viaduct is finished, upwards of three millions of bricks will have been used. It consists of twenty-seven arches, eight of which are turned, and the work pointed. The height of this from the ground to the base of the sleepers upon which the rails will be laid, is 72 feet, and the space across the road is 50 feet in width. All the buttresses, which are of brick, are pierced so as to take off the weight of the material, and contribute to the general stability of the erection.——The Manchester and Leeds Railway Company have voted 2,000 guineas for a testimonial to their chairman, Henry Houldsworth, Esq.; also 100 for his portrait, which is to be permanently hung up in the board-room of the company. They have also voted 1,000 guineas for a testimonial to Captain Laws, the managing director of the company. ——A tunnel of 3,482 yards will, it is said, be required on the proposed York and Carlisle, at a depth of 120 yards.——The Leeds and Carlisle will require a tunnel of 5,489 feet, or nearly 3¼ miles in length. It will also have to pass over a viaduct 500 yards in length, having 200 arches, the centre one being 130 feet high.——It is said that a railway will be brought before Parliament next session, thirty-seven miles long and "all tunnel."—— A fog signal for the prevention of railway accidents has been invented by a Mr. E. A. Cowper. It consists of a small box of explosive mixture, which, by means of a lead clip, is in one instant attached to the rail at a proper pulling-up distance from the station, the slip, or the accident, as the case may be. On the engine going over the signal, it explodes with a very loud noise, which is infallibly heard by the driver, who immediately shuts off the steam. ——The survey of the line for the erection of the viaduct by which the extension of the line from the terminus at Nine Elms is to be carried to the Belvidere-road, Westminster-bridge and Waterloo bridge, has been completed: nearly one thousand houses will have to be cleared away, The work is about to commence at the Wandsworth-road, in the course of the next week. The viaduct will pass across the Wandsworth, the South Lambeth, the Vauxhall, and the Westminster-bridge roads.——Passengers' luggage is now registered on the Brighton and Dover line. A fee of one penny per parcel ensures its safe arrival. A receipt is given to the passenger, who, by the production of it, obtains his luggage on reaching his destination.——The broad and narrow gauge experiments are still progressing under the superintendence of the respective engineers, and in the presence of her Majesty's commissioners. The rate of the gauges now stands thus:—broad gauge train of 400 tons, 23 miles per hour; narrow gauge train of 400 tons, 19 miles; excess of speed for broad gauge, 4 miles per hour.

Windsor Castle. — It is very desirable that tickets to view the castle should be obtainable in Windsor. Several parties have arrived in the town since the new arrangement came into operation on the 1st inst., for the express purpose of visiting the state apartments, but they were necessarily disappointed, in consequence of being unprovided with tickets.

LIST OF NEW PATENTS

RELATING TO ARCHITECTURE, ENGINEERING, &c. GRANTED FOR ENGLAND.

Furnished by Mr. A. Prince, of the Office for Patents of Inventions, Lincoln's-inn Fields, London.

[SIX MONTHS FOR ENROLMENT.]

Henry Waller, of Vauxhall-road, engineer, for improvements in sluice cocks. Oct. 31.

Thomas Edwards, of Islington Foundry, Birmingham, engineer, for certain improvements in steam engines. Nov. 3.

George Ewart, of the New-road, zinc manufacturer, for improvements in the manufacture of chimney-pots. Nov. 3.

Richard Atha, of Walton, near Wakefield, engineer, for atmospheric engines. Nov. 4.

Peter Armand le Compte de Fontainmoreau, of Skinner's-place, Size-lane, for certain improvements in producing artificial fuel. November 6.

Bryan Donkin, of the Paragon, New Kent-road, civil engineer, for improvements on wheels as applicable to railway carriages, and on the mechanical contrivances by which railway carriages are made to cross from one line of rails on to another line, or on to what are generally called sidings. Nov. 11.

George Hill Dutton, of Dutton, brewer, for certain improvements in conveying intelligence from one part of a railway train to another. Nov. 11.

Joseph Ramor Yglesias, of Mark-lane, London, merchant, for a new mode of application and combination of mechanical arrangements (or of mechanical and hydrostatical arrangements) already known and in use for the purpose, by such application and combination of augmenting the power or moving force of first moving machines or engines. Nov. 13.

Edward Hall, of Dartford, Kent, civil engineer, for an improved double cylinder condensing engine. Nov. 15.

James Boydell, Jun. of the Oak Farm Works, Dudley, ironmaster, for improvements in the building of ships and other vessels. Nov. 17.

Frederick Oldfield Ward, of Cork-street, Middlesex, gentleman, and Malcolm William Hilles, of Henrietta-street, Covent-garden, gentleman, for improvements in the construction of railways, and in machinery and apparatus for working carriages thereon. Nov. 18.

Christopher Vaux, of Brighton, gentleman, for improvements in apparatus or machinery for preventing accidents to carriages and passengers on railways, parts of which improvements are applicable to save lives and property in other places. Nov. 18.

Edward Brown Wilson, of Leeds, engineer, for improved apparatus applicable to swivel bridge and turn tables. Nov. 18.

Buckworth Henry Powell, of Pennington-house, Southampton, lieutenant and captain in the Grenadier Guards, for certain improvements in carriages to be used on rail and other roads. Nov. 18.

William Malins, of Mansion-house-place, London, and West Bromwich, Stafford, iron master, for improvements in constructing roofs and other parts of buildings of iron or other metals, and in the preparation of the materials of which the same are or may be constructed. Nov. 18.

Moses Poole, of London, gentleman, for certain improvements in raising and transporting earth and other heavy bodies. Nov. 18.

Ernest Edge, of Manchester, mechanic, for certain improvements applicable to the wheels and axles of engines, tenders, carriages, and waggons, to be used on railways. Nov. 20.

George Skinner, merchant, of Stockton-upon-Tees, and John Whalley, of South Stockton-upon-Tees, earthenware manufacturer, for certain improvements in the manufacture of earthenware pastes and vitreous bodies, and also a new composition and material for the same, with certain new modes of combination thereof, which improvements, compositions, and combinations are applicable to the manufacture of earthenware pastes, vitreous bodies, slabs, tiles, and pavement, and various other useful and ornamental purposes. Nov. 20.

John White, of Salford, in the county of Lancaster, engineer, for certain improvements in engines, machinery, or apparatus, for raising or forcing water. Nov. 27.

Moses Poole, of Serle-street, gentleman, for certain improvements to hinder the oxydation of iron, in all its various states, of cast metal, steel, malleable iron, and also to render malleable iron more hard and durable. Nov. 27.

VENTILATION OF HOSPITALS.

For a few years past a great deal has been argued and spoken of in the course of conversation on the subject of ventilation; may I, Sir, be permitted to offer a few straight-forward matters of fact, with reference to the case in point.

In the year 1807, a friend of mine, then an officer in the quarter-master generals' department of the British army in Sicily, informed me that one of their most healthy hospitals, situated on the sea-line wall of the town of Melano, had become suddenly so unhealthy, as to oblige them to remove the patients therefrom. Sometime afterwards, this same officer consulted with Docter Macadam, surgeon of the 20th Dragoons, as to the cause of this change; his reply was, it was occasioned by a want of ventilation, which arose from having increased the height of the wall between the building and the sea. Previous to this being done, a column of air from the sea was constantly passing through large folding doors on the ground floor, thereby pervading the whole of the building through the opening in the roof, and keeping the premises in a healthy state. The line-wall was raised to increase the strength of our defences against an attack of the enemy, with which we were threatened. With reference to the opinion of Doctor Macadam, this officer proceeded to act by cutting openings in the shape of loop-holes, flush with the floor of a tier of barrack-rooms, which were considered unhealthy, and opening holes in the wall flush with the ceiling, for the escape of foul air. Some time after, soldiers occupied these rooms, and continued healthy.

On the evacuation of the island by the British troops in 1815, this officer proceeded to Corfu, where he observed in a hospital, made over from the French to us, the same mode of operation, with respect to the openings flush with the floors, and windows reaching from the ceiling. As soon as the patients were up in the morning, and dressed, and moved to an adjoining room, these floor vent-holes were thrown open by removing the inside flap, and letting down the windows from the top; after which the room became perfectly sweet at the end of a few minutes. Whereas other buildings fitted up as hospitals by the English authorities were constantly subject to an unpleasant salve-like smell.

Investigator.

ABBEY OF ATHENRY, IRELAND.

FALL OF THE GREAT TOWER.

Sir,—The noble ruins of the once celebrated Abbey of Athenry, situated in the diocese of Tuam and county of Galway, are now nearly destroyed by the recent fall of the great central tower.

The abbey was founded in the year 1241, by Meyler de Bermingham, Second Baron of Athenry. In 1423 the church was partly consumed by fire; active steps appear to have been taken immediately after, by the Dominicans for the reparation of the entire fabric. This abbey is noticed in Grose's Antiquities of Ireland, by the late Dr. Ledwich, who says, that "in 1644 it was created into an university (*studium generale*), with four others, for the Dominican order, by order of a general chapter held at Rome." In this the learned antiquary must have been mistaken, as we find by the 16th of Elizabeth, the monastery with its appurtenances, thirty acres of land, in Athenry, &c. were granted for ever *in capite*, to the portrieve and burgesses of the town of Athenry, at the yearly rent of 26s. 4d., Irish money.

The following remarkable inscription, placed over the door of the refectory, was observed to be quite legible in October, 1725, as certified by nine gentlemen of the locality, whose names are on record:—"*Carolus manus rubræ me fiera fecit.*" Ledwich, after his usual sceptical manner, pronounces the inscription a forgery.

The newspapers, which briefly notice the fall of the tower, are quite silent as to the cause. It is, however, easy to conjecture, that owing to the sacred edifice being some sixty years ago converted into a barracks! or more properly speaking the materials of the walls being so used, the tower must have become, in some degree, isolated by the removal of portions of the transept, and nave walls. The work of destruction thus begun, it is easy to conceive that time, severe frosts, and a humid climate, would be sure to complete the havoc.

The foregoing inscription may be thus translated,—*Charles of the Red Hand caused me to be built.* Ledwich, as before stated, to get over a *seeming* difficulty, from the acknowledged testimony of early writers, who give the Baron Athenry as the founder of *the abbey*, at once asserts the inscription to be a forgery. On the other hand it is a well authenticated fact, that Cathal Crovderg (Charles), was a titular king of Connaught, and died in 1224, just seventeen years before the abbey was founded. If we then assume that the refectory, or other small buildings (appendages to all abbeys) were commenced *before* the main building or church, may this not have been done by this Cathal or Charles, the principal works being afterwards carried on by the munificence of De Bermingham.—I am, Sir, &c.,

Gorey, Dec., 1845. J. K.

ARCHITECTS' RESPONSIBILITIES.

Sir,—Having carefully perused a letter which appeared in your last number, on "Architects' Charges and Responsibilities," I am anxious to correct an error which, in my opinion, is absurd. I refer to the fourth clause, on superintendence, wherein Mr. George Wightwick states that the character of an architect would not at all be "impugned" by his allowing "roofs to leak, plumbing partially to fail, plastering to crack or become discoloured, drains to yield offensive odours, joinery to shrink; and many other evils to shew themselves through the carelessness of the workmen" (I suppose), without being remedied.

Now, an architect is bound to protect his employer against all such evils as are here enumerated, and if the builder, his foreman, or operatives are careless, he ought to have power to dismiss such workmen, &c., and to compel the builder, within a certain time, to employ others in their stead.

To persons at all experienced in the building art it is unnecessary for me to state, that it is (or rather ought to be) enjoined in every specification, that a certain sum is to be reserved from the contract money for a determined period, as a security for the proper standing of the materials and workmanship, and if at the expiration of that period any bad work should appear, then the contractor should remedy it at his own expense, and it is the architect's duty to see that he does so. With regard to a clerk of the works, of course he is a necessary person in large buildings, but in small, too expensive; and even where a clerk is engaged, it is too frequently the case that he requires great watchfulness on the part of the architect.

And for the architect to allow such workmanship to remain (as Mr. Wightwick's letter seems to imply) would not only be endangering his own reputation, but defrauding his client. I speak this with all deference to Mr. Wightwick.

With regard to the remainder of the letter, I quite agree with him, and *admire* the plan of putting it into the hands of his clients; but no clause in it ought to apologize for bad workmanship, for as I have said before, it is the architect's imperative duty to see that the work is properly executed.

Trusting that these few remarks will obtain your consideration,—I am, Sir, &c.,

An Architect.

London, 12th Jan. 1846.

"Proceedings under the Metropolitan Buildings Act."—Mr. Weale has just published a small volume under this title, by Edward Lawes, Esq., which will be found of the greatest value by all who are connected with house property within the limits of the Act. It contains, in a portable form, a digest and classification of the various awards made by the official referees up to a certain period, the modifications authorized by the Commissioners of Woods and Forests, and some account of the office of buildings, and the course of practice pursued there.

Westbury.—There is a probability of the fine old church at Westbury being restored by the liberality and spirit of the town and neighbourhood.

THE THEATRE AT MEXICO.

A correspondent of *The Times*, in a letter dated October, 1845, gives the following account of the Teatro Nacional of Mexico, which, in his opinion, is "far superior to all buildings of the same kind in London, Paris, or any other capital of Europe for lightness, elegance, and comfort."

The building, of which the theatre forms a part, contains a café, hotel, restaurant, billiards, and card-rooms. It presents to the Calle Bergara a very handsome front, within which are found two *patios*, or squares, with galleries running along each, and communicating with the reception-rooms. These *patios* are covered with glass, and are ornamented by a profusion of natural flowers, and a few orange trees, which have a charming effect. They form at night a kind of crush-room, through which all Mexican belles must pass to and from the the boxes, and they are consequently crowded with young men pretending to taste or fashion, who exchange *adios* and glances with the dear creatures as they are marched in solemn procession, under the guidance of unforgiving fathers, or sympathizing mammas. Next to the last *patio* are two staircases, communicating only with the boxes, which are private property, the access to them being thus separated from the money part of the house; and beyond that is the entrance to the pit, and the ground-floor of boxes, which are subject to distinct regulations from those of the upper tiers.

The boxes of the upper tiers are admirably arranged. A slight division, in a waving line, not breast high in any part, separates one from the other, so that there is a free circulation of air through all. They are cut down in front so low that the whole person of the occupier is seen from every part of the house, and ladies have not to complain, as in Paris and London, of being shut up in cases in which their heads and shoulders are only visible, and all the elegance of the general toilette concealed. A Mexican lady sits enthroned in her box, as on an elevated platform, presenting the whole of her graceful person and brilliant costume to the admiration of her friends. A slight rail, a few inches high, conceals only her feet, and secures her from falling over into the pit; but enough is understood, especially on gala nights, to prove that a Mexican architect has been the first to discover that beautiful women, seen to full advantage, are more ornamental in an open box than silk curtains or mouldings of white and gold. The boxes being private property, are furnished according to the taste of the owners; some are very handsomely fitted up, and the form of the house is so well aranged, that from every seat not only are the performances seen and heard, but from every chair in every box the whole of the other *patios* are visible. Attached to each box is a retiring room, or *cuarto*. Between the acts the *cuartos* are filled with smoking coteries, in which it must be owned the ladies, with their paper or straw cigarettes, are most indefatigable. As these *cuartos* are in darkness visible, only one candle, or dull lamp, being found, it is amusing as you pass to see them suddenly lighted up with so many flashing fires like glow-worms, and to hear the chatter of the performers, who contrive to talk and smoke with unceasing rapidity.

New College at Canterbury.—We stated some time ago that a site in the city of Canterbury (the ruins of the ancient Abbey of St. Augustine) having, by the gift of a lay member of the church (Mr. Hope) been devoted to this purpose, and a sum then amounting to 39,000*l.* having been already contributed towards its accomplishment, it was proposed to commence immediately the principal quadrangle of the college, including the chapel, hall, library, and apartments for fifty students, with the requisite accommodation for the officers and servants of the establishment. The provisional committee now report that one entire side of the quadrangle, containing rooms for fifty students, is externally complete and covered in; that the hall and offices are also in an advanced state; and the chapel, warden's house, and fellows' building, begun; and it is hoped that the library and lecture rooms will be commenced in the spring. There is at present every reason to expect that the buildings will be ready for the reception of students by the end of August next.

NEW POLICE COURT VINCENT SQUARE.

A NEW police-court, in lieu of Queen-square, to be known as the "Westminster," has lately been opened. The front is in Vincent-square; the business entrance is in Dorchester-row. The court itself is a good capacious building, about 30 feet by 24, and exceedingly lofty; it is also very light, and might furnish hints in the construction of our superior courts. The waiting-room is of a very different character. It adjoins the court, and is sufficiently large for ten or a dozen persons to sit uncomfortably in; it is paved with asphalte, and has a door opening in its centre, to the constant annoyance and danger of those who are compelled to wait their turn. The inconvenience attending this arrangement is not wholly experienced by the public, the room itself being so small, in contact with the court, and at times much crowded, every word and laugh are distinctly heard, to the annoyance of the magistrate in the performance of his duties. The room appropriated for the inspector to review charges in is absurdly small; to meet this deficiency, a sliding-door is made in the wainscot, which separates it from the passage, and the passage itself is to be used for the culprit. The cells are admirably constructed; they are seven in number, and are warmed by a hot-air apparatus; in every respect they reflect great credit upon the humanity of those who designed them. †

Correspondence.

THE QUADRANT, PICCADILLY.

SIR,—You would be doing the inhabitants of Regent-street and the public, a great service by inspecting and exposing the botching manner, in which the Office of Woods and Forests allowed the Quadrant to be built originally, and perhaps your exertions might obtain some uniformity in the repairs that are about to take place. All the housekeepers excepting five, wish the whole of the columns and terrace removed, and are willing to pay the cost. If, however, that cannot be done, a sky-light in the manner of Swan and Edgar's all through, might in some way remedy the present evil.

I remain, Sir, &c.,

A SUBSCRIBER TO THE BUILDER.

*** The removal of the columns is quite out of the question. We have too few covered walks in London, quietly to yield up one of such an extent as the Quadrant. The introduction of a glass covering, rendered easy by the remission of the duty, would remedy the evil complained of, viz., darkness in the shops, and will, we trust, be concurred in by the owners generally.

POWER OF RUNNING WATER: WATER WHEELS.

SIR,—I should be obliged if any of your engineering correspondents could give me the following information:—I have a stream of water flowing through my premises at the rate of eighty gallons per minute, with a fall of 9 feet; I wish to know what power it would give me, with an overshot wheel of that diameter, and if enough for a circular saw (which I wish to apply to it), what sized one it would drive? If not sufficient for the purpose, can an increase of power be obtained by having a breast wheel, with the fall of water reduced to 5 or 6 feet, by a reservoir of 3 to 4 feet depth, from which, by a sluice, double or treble the quantity may flow on the wheel for a given time, and what would be the proper diameter for the wheel? By your insertion of this, it will oblige. Yours respectfully,

Isle of Wight, Jan. 6th. T. P.

CAUTION TO FRENCH POLISHERS.—On Monday evening, as two men, in the employ of Messrs. Powell, cabinet-makers, &c., Argyll-street, were pouring some spirit used in polishing from one vessel to another, a spark, it is supposed from the candle, communicated itself to the spirit, and, in a moment, the shop was in one vast blaze. Such was its violence, that it carried away the whole of the glass sashes, &c., to a considerable distance; and, it is certain, had there been shavings about the shop, the whole premises must have been destroyed. One of the men is very much burnt, though not dangerously.—*Bath Gazette.*

Miscellanea.

EXTENSION OF LIVERPOOL.—The increase in the number of houses built in Liverpool has been great beyond all precedent during the last two years, as will be seen from the following statement:—No less than 2,450 houses were erected in 1844, and the still more extraordinary number of 3,728 were erected in 1845, within the Parliamentary borough, to say nothing of the hundreds built beyond the boundaries, in the direction of the Old Swan, and the still greater number built on the Cheshire side of the river. To some extent this extraordinary increase in the number of houses has been the result of the excellent regulation which forbids living in cellars, and so far it is a proof of an improved mode of living rather than of an increase of the population; but, even after every allowance has been made for that circumstance, the increase is surprising, and shews that Liverpool is still in the full vigour of its growth. The following particulars of the increase of houses from 1838 to 1845 are very remarkable:—

	Houses.
In 1838	1,052
1839	997
1840	1,577
1841	1,761
1842	2,027
1843	1,390
1844	2,450
1845	3,728
Total	14,982

—*Liverpool Times.*

LONDON SEWAGE COMPANY.—We have received a copy of a report upon the proposed works, by Mr. Wicksteed, but must look a little further into the merits of the company before referring to it. We are acquainted with Mr. John Martin's plan, and the company formed to carry it out. The fact of a Mr. Martin being advertised as secretary to the London Sewage Company, with which Mr. *John* Martin has *nothing to do*, has a very questionable appearance. We forbear, however, to make any comments until we have further information.

TRAFALGAR SQUARE.—The public cry out loudly for lights in the square, and cannot understand why darkness should be persisted in, when the gas is laid on, and all things apparently ready. This "finest" site is also the most unfortunate.

BRISTOL ACADEMY OF FINE ARTS.—The first annual meeting of the Academy was held last week, and a very gratifying report was read. We shall refer to it next week.

MEETINGS OF SCIENTIFIC BODIES.

During the ensuing week.

MONDAY, Jan. 19.—Statistical, 12, St. James's-square, 8 P.M.

TUESDAY, 20.—Syro-Egyptian, 71, Mortimer-street, Cavendish-square, 8 P.M.; Civil Engineers, 25, Great George-street, 8 P.M. (Anniversary.)

WEDNESDAY, 21.—Geological, Somerset House, 8½ P.M.; London Institution, Finsbury-circus, 7 P.M.

THURSDAY, 22.—Royal, Somerset House, 8½ P.M.; Antiquaries, Somerset House, 8 P.M.; R. S. Literature, 4, St. Martin's-place, 4 P.M.

FRIDAY, 23.—Royal Institution, Albermarle-street, 8½ P.M.

SATURDAY, 24.—Royal Botanic, Regent's-park, 4 P.M.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the execution of works on the Lynn and Ely Railway, being a length of about 13 miles.

For the execution of works on the Lynn and Dereham Railway, being a distance of about 9 miles.

For the execution of works on the Dublin and Belfast Junction and Navan Branch Railway, being two contracts respectively of the lengths of 8 miles 1638 yards, and 8 miles 154 yards.

For the execution of works on the South Wales Railway.

For the execution of the works on the Erewash Valley Railway, being a length of about 17 miles.

For building one or more chimneys for the Kingston Cotton-mill Company, with all the requisite excavations, &c.

For supplying the Liverpool Dock Company with a given number of pontoons or iron boats for the support of the landing stage now in course of construction.

For the execution of the embankments and other works connected with Revelin Reservoirs, Sheffield.

For the execution of the works on the Bridlington Branch of the York and North Midland Railway, being a distance of about 19¾ miles.

For supplying her Majesty's several Dock-yards with colours and other ingredients for making paint.

For the execution of works on the Newry and Enniskillen Railway, being a distance of about 5¾ miles.

For the execution of extensive alterations, &c. on the Whitby and Pickering Railway.

COMPETITION.

The committee for promoting the projected Hospital at Birkenhead are willing to receive designs and estimates for such building. A premium of 50*l.* will be given for the most approved design, 30*l.* for the second in estimation, and 20*l.* for the third.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Duxford, Cambridgeshire: 100 ash, elm, and poplar timber trees; and 900 ash, elm, and alder poles. Some of the ash are of large dimensions, and superior quality.

At Poulshot Lodge, near Devizes: 387 elm, and 83 oak trees, of very large dimensions.

A Windsor, near Southampton: 87 prime oak timber trees, of large dimensions, and exceedingly sound.

At Steeple Mordan, near Royston: 4,000 larch, Scotch, and spruce poles, &c.

At Babraham: a large fall of ash, elm, sycamore, beech, and other timber trees; also some fine larch and other spires.

At Herringswell, near Mildenhall: a large quantity of valuable larch and spruce timber trees, &c.

On the Kennet estate, near Newmarket: 72 oak timber trees of excellent quality, very straight and clean, and of large dimensions, from 20 to 100 feet each; also several ash and elm trees, 2 large poplars, &c.

In the Home-field, near Fryern Court-house, Fordingbridge: 220 ash timber trees, very clean and sound.

At the Angel Inn, Sutton, Surrey: 400 oak, ash, and elm timber trees, some of large dimensions (the principal part being oak).

TO CORRESPONDENTS.

"A Builder."—*B. could not substantiate a claim.*

"A Subscriber."—*Address Mr. Thomas Fry, Birkenhead.*

"A Landlord."—*Our esteemed correspondent must pardon us for postponing his communication.*

"The Allotment System."—*A correspondent, used to agricultural operations, is anxious to obtain a five-acre allotment in any part of the country west of the Severn, and wishes to know how he should proceed to effect his object.*

"Manchester School of Design."—*The pamphlet is published by Simpkin and Marshall.*

"A Subscriber."—*The improvements alluded to are not expected to be made immediately.*

Received:—"Budownik;" "H. E. K.;" "J. J.;" "E. P.;" "F. M.;" "B. B.;" "Oak and Stone."

Various correspondents must excuse us for postponing consideration of their communications.

*** Correspondents are requested to address all communications to the EDITOR, York-street.

NOTICE.

Full price and thanks will be given by our publisher for copies of "THE BUILDER," for any week in October.

ADVERTISEMENTS.

FINE ARTS.

By Her Majesty's Royal Letters Patent

LORIMIER'S TRANSPARENT PLANES for Perspective Drawing; BENJAMIN WEST, Patentee.

"This Instrument will enable Artists and others to make any Drawing, whether from Nature or Models, in perfectly true perspective, so that a likeness or landscape may be taken in a few minutes absolutely perfect. It is used by her Majesty's Royal Sappers and Miners, Chatham. To Travellers it would be found serviceable, since it can be employed without the knowledge of drawing."—*Art Union.*

Price 18s. and 26s. Apply for Agents to BENJAMIN WEST 2, St. James's-walk, Clerkenwell.—Sold by BARRITT and Co., 173, Fleet-street, London; GRIFFIN and Co., Glasgow, and by all Fancy Stationers, &c.

TO BUILDERS, PLUMBERS, ENGINEERS, AND IRONMONGERS.

BEST PAN WATER-CLOSETS, with round Valve, complete, 30s. each.

Plumbers' Bib, Ball, and Stop Cocks, ½ in., 20s.; ¾ in., 28s.; 1 in., 56s. per doz.

Lifting Force Pumps on Planks, 2½ in., 4l.; 3 in., 4l. 15s.

Washing Coppers, 1s. 1d. per pound.

Water Balls, ¾ in., 15s. per doz.

Gun Metal Steam Cocks, Safety Valves, &c., and every description of Brass and Copper Work equally low, at A. McGLASHAN and Co. Brassfounders and Coppersmiths, 10, Long-acre.

N.B.—Every article warranted.

SEWERS, MIDDLESEX, HOLBORN, AND FINSBURY DIVISIONS.

NOTICE IS HEREBY GIVEN, that a Court of Sewers for Holborn and Finsbury Divisions in the County of Middlesex, will be holden at the Sewers Office, No. 7, Hatton Garden, on Friday, the 30th day of January, 1846, at 2 o'clock in the afternoon precisely.

JOSEPH UNWIN, Summoner and Cryer.

10th January, 1846.

Sewers's Office, for Holborn and Finsbury Divisions, &c. No. 7, Hatton-Garden.

To Builders and others, interested in Buildings, or in Ground for Building upon, within the District of Holborn and Finsbury Divisions, the Parish of St. Leonard, Shoreditch, and the Liberty of Norton Falgate, in the County of Middlesex, and the borders and confines of the same.

THE COMMISSIONERS of SEWERS for the above limits do HEREBY GIVE NOTICE, that previous to making any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, application must be made by petition, the form of which may be had at their office; to which must be attached, a plan of the intended line of sewer; and which must be constructed conformably with their regulations.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated to too great a depth, the commissioners have directed that, upon application being made at their office, previous to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the commissioners do also give notice, that whenever the lowest floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings; and further, that no buildings or erections of any kind will be permitted to be made upon or over any sewer.

All communications made with any public sewer, without previous application as aforesaid, will be stopped out; and the parties making the same will subject themselves to a fine.—By the Court,

STABLE and LUSH, Clerks.

*** The public is also informed, that all rates imposed by the said commissioners are to be paid by the tenant, and allowed by the landlord out of the rent, except where the tenant, by special covenant or agreement, is bound to defray the same.

HOLBORN AND FINSBURY SEWERS, MIDDLESEX.

THE COMMISSIONERS of SEWERS for the LIMITS give NOTICE, that their Office, Hatton Garden, is open daily between the hours of Ten and Four, where information can be obtained (gratis) by persons about to Purchase or Rent Houses or Property, or take Land for Building purposes, of the situation and level of the public Sewers, capable of affording sufficient Drainage, and which they recommend all such Persons to apply for at the above Office. By the Court,

STABLE and LUSH, Clerks.

COURT OF SEWERS FOR WESTMINSTER, AND PART OF MIDDLESEX, No. 1, Greek-street, Soho-square.

TO BUILDERS and Others interested in buildings or in ground for building upon, within the district under the jurisdiction of this Court, drained by watercourses falling into the river Thames, between the city of London and the parish of Fulham.

The Commissioners hereby give notice, that by an Act of the 47th Geo. III. (chap. 7, local) it is required that, previously to the making of any new sewer in any street, lane, or public way, or in any part intended to become a street, lane, or public way, or to carry or drain off water from any house, building, yard, or ground, into any sewer under their management, or within their jurisdiction, a notice in writing shall be given to them, or to their clerk at their office, and that such new sewer or sewers shall be constructed and made in such manner and form as shall be directed by the said Commissioners, and not otherwise.

And, in order to prevent the serious evils and inconveniences that must arise from ground proposed to be built upon being excavated at too great a depth, the Commissioners have directed that, upon application being made at this office previously to the excavation of such ground, information shall be given as to the lowest depth at which the same can be drained.

And the Commissioners do also give notice that, whenever the lower floors or pavements of buildings shall have been laid so low as not to admit of their being drained with a proper current, they will not allow any sewers, or drains into sewers, to be made for the service of such buildings.

It is recommended to all persons about to purchase or take houses, or other premises, to ascertain whether such premises have separate and distinct drains into common sewers.

All petitions must be delivered at this office at least three clear days before they are presented to the Commissioners; and all such petitions will be called on in the order of their application, and the name of any party not present when called on to support the application will be struck out, and the proceedings must in consequence be commenced de novo.

All communications made with any sewer without leave of the Commissioners will be cut off, and the parties making the same will subject themselves to a fine.

The provisions of the Metropolitan Buildings Act (7 and 8 Victoria, c. 84) do not supersede the authority of the Commissioners of Sewers in the above respects, but their powers are expressly reserved, and their regulations made subservient to the purposes of that Act. The execution of such works, under the superintendence of the district surveyor alone, cannot therefore warrant the making of any sewers or drains within this commission, nor relieve the parties making them from the penalties above mentioned.

By order of the Court,

LEWIS C. HERTSLET, Clerk.

CAEN STONE.

LUARD and BEEDHAM have a quantity of the above stone, of the best quality, direct from their Quarries at Allemange, which may be inspected at the Norway Sufferance Wharf, Greenwich.—Further particulars at Mr. G. GATES', 18, SOUTHWARK-SQUARE, SOUTHWARK.

PIMLICO MARBLE AND STONE WORKS, BELGRAVE WHARF, PIMLICO-ROAD.

SAMUEL CUNDY begs to inform Architects, &c., that every description of Stone, Marble, and Granite work is executed at the cheapest possible rate.

Estimates given for Mason's Work in all its branches. Gothic Work, Tombs, Monuments, &c.

MARBLE WORK for Halls, Dairies, Tables, Columns, Vases, at most reasonable prices.

A large collection of Designs for Mural and other Monuments.

CHIMNEY PIECES from Twelve Shillings upwards.

Depôt for CAEN STONE, &c.

THE WESTMINSTER MARBLE COMPANY inform the Public that the great reduction they have made in the price of their VEIN MARBLE CHIMNEY-PIECES, they are supplying them at a lower price than the Slate Chimney-pieces made up to imitate marble. They also invite Architects and Builders to inspect their stock of elegant carved Chimney-pieces, executed in a style entirely unequalled in this country.

WESTMINSTER MARBLE WORKS, EARL-STREET, MILLBANK.

A Vacancy for a respectable person, who is well acquainted with the marble trade, to assist in the out-door department. Apply by letter only.

POLONCEAU'S BITUMEN PAVEMENT for paving Foot walks, Terraces, Garden walks, Stables, Coach Houses, Granaries, Corn Stores, and Salt Warehouses. For the exclusion of Damp and Vermin in Basements it is particularly adapted, and for Roofing Dwelling Houses, Porticos, Balconies, and Sheds.

Price 3s. 6d. per square yard.

BITUMEN for covering the Arches of Bridges, Culverts, &c. &c. on Railways and other places (with instructions for laying it down), may be had at the rate of 45s. per ton, by applying to JOHN PILKINGTON, 15, Wharf-road, City-road.

TO ARCHITECTS.

IN consequence of many complaints having been made to the Company, by Architects, of a spurious material having been used in the execution of Works where the SEYSSEL ASPHALTE had been specified for, the Directors, with a view to ensure the fulfilment of any such specification, have authorized CERTIFICATES to be granted to Builders where the

SEYSSEL ASPHALTE

has been used. For the purpose of securing the use of the Genuine Article, Architects and others are recommended to insert in their specifications the "Seyssel Alphalte, Claridge's Patent," and not merely "Asphalte," or "Bitumen," as in many cases where these terms have been used, gas-tar and other worthless and offensive compositions have been introduced. I. FARRELL, Secretary.

Stangate, near Westminster Bridge, Jan., 1845. Seyssel Asphalte Company.

Books of Instructions for Use may be had at the Office of "The Builder," and of all Booksellers in Town and Country, price 1s.

*** In proof of the necessity of the above advertisement, it may be mentioned, that it has come to the knowledge of the Directors, that in certain works which have been executed by Messrs. CURTIS, builders, of Stratford, a spurious material has been used by them, contrary to the specifications, which expressly mentioned, that "Claridge's Asphalte" was to be used.

Also in the case of a work at Lewisham executed by Messrs. ROBERT and DANIEL YOUNG, of 10, Crown-row, Walworth-road, where Seyssel Asphalte was specified for, a spurious article was nevertheless laid down by them.

TO ARCHITECTS AND BUILDERS.

DOOR SPRINGS AND HINGES.—GERISH'S PATENT DOOR SPRINGS, for CLOSING every description of DOOR, consists of Single and DOUBLE-ACTION BUTT HINGES in Brass and Iron for Doors to open one or both ways, and Rising Hinges for the convenience of Doors opening on uneven Floors. Likewise Swing Centres, which consist of a combination of power unequalled by any made at present. Manufactured by F. W. Gerish, East-road, City-road; and sold by all respectable Ironmongers in the United Kingdom.

TO ARCHITECTS AND BUILDERS.

COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, BRIDGE-ROAD, LAMBETH, where a great variety are always on view, for Church, Park, Coach-house, and all other Doors and Gates, of large or small dimensions, a gate of a ton in weight moving with these hinges as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced in an instant. Rising and spring Hinges, also double-action Butts on the most improved principle, and very superior Fastenings for exterior Gates, at moderate prices. To be seen at Charles Collinge and Co's Patent Axletree, Sugar-mill and Spherical-hinge Manufactory, 64, Bridge-road, Lambeth.

BUILDERS, PAINTERS, GLAZIERS, and others supplied with every article used in the trade upon the best wholesale terms.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5 Princes-street, Leicester-square, London, for complete lists, priced, of dry and good Colours, Brushes, Pumps, Closets, Plumber's Brass Work, and all materials.

COLOURED and ORNAMENTAL GLASS of every description at the very lowest prices.

BRITISH and FOREIGN SHEET for Horticultural and all other purposes, as low as any house in the kingdom.

LAMP SHADES AND GAS GLASSES.

Gas Contractors, Fitters, Glass Merchants, and others supplied with any description. Lists of nearly 100 patterns, with prices affixed, sent to any part of the kingdom gratis.

CLOCK MAKERS, ALABASTER FIGURE MAKERS, ARCHITECTS, MODELLERS, and others, supplied with FRENCH ORNAMENT SHADES, for covering Models of Public Buildings, Geological Curiosities, &c., &c., of all sizes and shapes. List of Prices may be had on application. Bee Glasses, Striking Glasses for Nurserymen, Fish Globes and Confectioners' Glasses, &c., of every size and description.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

FOREIGN WINDOW GLASS.

THOS. MILLINGTON begs to inform his friends, that he continues to receive weekly large consignments of FOREIGN GLASS, which he is determined to offer upon the very lowest terms. Address, 87, Bishopsgate-street Without.

PLUMBERS' BRASS WORK, WATER-CLOSET PUMPS, &c.—These articles require the greatest attention and care in the manufacture, and will be found superior and cheaper than at any other manufactory. Best Pan Water Closets, 32s.; 2½ Lift Pumps and Planks, 4l. 10s. 0d.; 3-inch Pumps, 5l. 10s. 0d.; ¾-inch Bib Ball and Stop Cocks, 2s. 4d. each, and every article in this branch equally low. Every article warranted.—Address, THOS. MILLINGTON, 87, Bishopsgate-street.

VARNISH.

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The BIRCH WOOD, which has a fine natural grain, with little colour, is particularly suited to the application of these Stains; and the appearance which it assumes after Staining is so near that of the natural wood, that is is only when the grain and colour of the latter is particularly fine that it is preferred. Beech, Birch, Elm, Ash, and other Woods, English and Foreign, receive the Stains and produce various imitations.

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Prepared by HENRY STEPHENS, and may be obtained at 54, Stamford-street; of Mrs. ROWLAND, Painter and Glazier, 3, Broad-street, Golden-square; and at the Office of "THE BUILDER," 2, York-street, Covent-garden, at which places specimens of their application may be seen.

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